

according to Regulation (EC) No. 1907/2006

Creation Date 07-Sep-2010 Revision Date 24-Jan-2024 Revision Number 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: <u>tert-Butyl alcohol, ACS</u>

Cat No. : 33278

Synonyms tert-Butyl alcohol; 2-Methyl-2-propanol; 2-Methylpropan-2-ol

 Index No
 603-005-00-1

 CAS No
 75-65-0

 EC No
 200-889-7

 Molecular Formula
 C4 H10 O

REACH registration number -

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

Process categories PROC15 - Use as a laboratory reagent

Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company

Thermo Fisher (Kandel) GmbH

Erlenbachweg 2, 76870 Kandel, Germany

Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300

Swiss distributor - Fisher Scientific AG Neuhofstrasse 11, CH 4153 Reinach

Tel: +41 (0) 56 618 41 11

https://www.fishersci.ch/ch/en/customer-help-

support/forms/email-us.html

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

customers in Switzerland:

Tox Info Suisse Emergency Number: 145 (24hr)

Tox Info Suisse: +41-44 251 51 51 (Emergency number from abroad)

Chemtrec (24h) Toll-Free: 0800 564 402 Chemtrec Local: +41-43 508 20 11 (Zurich)

ALFAA33278

Revision Date 24-Jan-2024

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids Category 2 (H225)

Health hazards

Acute Inhalation Toxicity - Vapors
Serious Eye Damage/Eye Irritation
Specific target organ toxicity - (single exposure)

Category 2 (H319) Category 3 (H335) (H336)

Category 4 (H332)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H225 - Highly flammable liquid and vapor

H332 - Harmful if inhaled

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

Precautionary Statements

P280 - Wear eye protection/ face protection

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P312 - Call a POISON CENTER or doctor if you feel unwell

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS No	EC No	Weight %	CLP Classification - Regulation (EC) No 1272/2008
tert-Butyl alcohol	75-65-0	EEC No. 200-889-7	>95	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) Acute Tox. 4 (H332) STOT SE 3 (H335) STOT SE 3 (H336)

REACH registration number	-
---------------------------	---

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of 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.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists,

call a physician.

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

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

symptoms occur.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

4.2. Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like

headache, dizziness, tiredness, nausea and vomiting

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

Water may be ineffective.

5.2. Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

tert-Butyl alcohol, ACS Revision Date 24-Jan-2024

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO2).

5.3. Advice for firefighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

6.2. Environmental precautions

Should not be released into the environment.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat, sparks and flame.

Technical Rules for Hazardous Substances (TRGS) 510

Storage Class (LGK) (Germany)

Class 3

Switzerland - Storage of hazardous substances Storage class - SC 3

https://www.kvu.ch/de/themen/stoffe-und-produkte https://www.kvu.ch/fr/themes/substances-et-produits https://www.kvu.ch/it/temi/sostanze-e-prodotti

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Forth edition. Published 2020. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority. **CH** - The Government of Switzerland has set a directive on limit values for working materials (Grenzwerte am Arbeitsplatz) which is based on the Swiss Federal Regulation "Verordnung über die Verhütung von Unfällen und Berufskrankheiten". This directive is administered, periodically revised and enforced by SUVA (Swiss National Accident Insurance Fund).

Component	European Union	The United Kingdom	France	Belgium	Spain
tert-Butyl alcohol		STEL: 150 ppm 15 min	TWA / VME: 100 ppm (8	TWA: 100 ppm 8 uren	TWA / VLA-ED: 100
		STEL: 462 mg/m ³ 15	heures).	TWA: 307 mg/m ³ 8 uren	ppm (8 horas)
		min	TWA / VME: 300 mg/m ³		TWA / VLA-ED: 308
		TWA: 100 ppm 8 hr	(8 heures).		mg/m³ (8 horas)
		TWA: 308 mg/m ³ 8 hr			

Component	Italy	Germany	Portugal	The Netherlands	Finland
tert-Butyl alcohol		TWA: 20 ppm (8	TWA: 100 ppm 8 horas		TWA: 50 ppm 8 tunteina
		Stunden). AGW -			TWA: 150 mg/m ³ 8
		exposure factor 4			tunteina
		TWA: 62 mg/m ³ (8			STEL: 75 ppm 15
		Stunden). AGW -			minuutteina
		exposure factor 4			STEL: 230 mg/m ³ 15
		TWA: 20 ppm (8			minuutteina
		Stunden). MAK			lho
		TWA: 62 mg/m ³ (8			
		Stunden). MAK			
		Höhepunkt: 80 ppm			
		Höhepunkt: 248 mg/m ³			

Component	Austria	Denmark	Switzerland	Poland	Norway
tert-Butyl alcohol	MAK-KZGW: 80 ppm 15	Ceiling: 50 ppm	STEL: 80 ppm 15	STEL: 450 mg/m ³ 15	Hud
	Minuten	Ceiling: 150 mg/m ³	Minuten	minutach	Ceiling: 25 ppm
	MAK-KZGW: 248 mg/m ³	Hud	STEL: 240 mg/m ³ 15	TWA: 300 mg/m ³ 8	Ceiling: 75 mg/m ³
	15 Minuten		Minuten	godzinach	
	MAK-TMW: 20 ppm 8		TWA: 20 ppm 8		
	Stunden		Stunden		
	MAK-TMW: 62 mg/m ³ 8		TWA: 60 mg/m ³ 8		
	Stunden		Stunden		

Component	Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
tert-Butyl alcohol		TWA-GVI: 100 ppm 8	TWA: 100 ppm 8 hr.		TWA: 300 mg/m ³ 8
		satima.	TWA: 300 mg/m ³ 8 hr.		hodinách.
		TWA-GVI: 308 mg/m ³ 8	STEL: 300 ppm 15 min		Potential for cutaneous
		satima.	STEL: 900 mg/m ³ 15		absorption
		STEL-KGVI: 150 ppm	min		Ceiling: 600 mg/m ³
		15 minutama.			
		STEL-KGVI: 462 mg/m ³			
		15 minutama.			

Component	Estonia	Gibraltar	Greece	Hungary	Iceland
tert-Butyl alcohol	Nahk		STEL: 150 ppm		STEL: 50 ppm
	TWA: 50 ppm 8		STEL: 450 mg/m ³		STEL: 150 mg/m ³
	tundides.		TWA: 100 ppm		Skin notation
	TWA: 150 mg/m ³ 8		TWA: 300 mg/m ³		
	tundides.				
	STEL: 75 ppm 15				
	minutites.				
	STEL: 250 mg/m ³ 15				
	minutites.				

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
tert-Butyl alcohol	TWA: 10 mg/m ³	TWA: 50 ppm IPRD			
		TWA: 150 mg/m ³ IPRD			
		Oda			
		STEL: 75 ppm			
		STEL: 250 mg/m ³			

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
tert-Butyl alcohol	MAC: 10 mg/m ³	Ceiling: 250 mg/m ³	TWA: 20 ppm 8 urah	Indicative STEL: 75 ppm	

tert-Butyl alcohol, ACS

Revision Date 24-Jan-2024

TWA: 20 ppm	TWA: 62 mg/m ³ 8 urah	15 minuter	
TWA: 62 mg/m ³	STEL: 80 ppm 15	Indicative STEL: 250	
	minutah	mg/m ³ 15 minuter	
	STEL: 248 mg/m ³ 15	TLV: 50 ppm 8 timmar.	
	minutah	NGV	
		TLV: 150 mg/m ³ 8	
		timmar. NGV	
		Hud	

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See values below; See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
tert-Butyl alcohol 75-65-0 (>95)				DNEL = 5.5mg/kg bw/dav

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
tert-Butyl alcohol 75-65-0 (>95)		DNEL = 214mg/m ³		DNEL = 2.7mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

	Component	Fresh water	Fresh water	Water Intermittent Microorganisms in			
			sediment		sewage treatment		
Ī	tert-Butyl alcohol	PNEC = 2mg/L	PNEC = 8.04mg/kg	PNEC = 9.33mg/L	PNEC = 690mg/L	PNEC = 1mg/kg soil	
	75-65-0 (>95)		sediment dw			dw	

Component	Marine water	Marine water sediment	Marine water Intermittent	Food chain	Air
tert-Butyl alcohol	PNEC = 0.2mg/L	PNEC =		PNEC = 88700g/kg	
75-65-0 (>95)		0.804mg/kg		food	
		sediment dw			

8.2. Exposure controls

Engineering Measures

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

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Butyl rubber	> 480 minutes	0.35 mm	Level 6	As tested under EN374-3 Determination of
Neoprene gloves	> 480 minutes	0.45 mm	EN 374	Resistance to Permeation by Chemicals
Viton (R)	> 480 minutes	0.3 mm		-

Skin and body protection Long sleeved clothing.

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection No protective equipment is needed under normal use conditions.

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Small scale/Laboratory use Maintain adequate ventilation

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State Liquid

AppearanceClearOdorStrong

Odor Threshold No data available

Melting Point/Range 25 - 25.5 °C / 77 - 77.9 °F Softening Point No data available

Boiling Point/Range 83 °C / 181.4 °F @ 760 mmHg
Flammability (liquid) Highly flammable On basis of test data

Flammability (solid,gas) Not applicable Liquid

Explosion Limits Lower 1.8 Vol%

Upper 8 Vol%

Flash Point 11 °C / 51.8 °F Method - No information available

Autoignition Temperature 490 °C / 914 °F Decomposition Temperature No data available 7

Viscosity 6.43 mPa.s (25°C)
Water Solubility Miscible

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow tert-Butyl alcohol 0.317

Vapor Pressure 36 mbar @ 20 °C

Density / Specific Gravity 0.775

Bulk DensityNot applicableLiquidVapor Density2.6(Air = 1.0)

Particle characteristics Not applicable (liquid)

9.2. Other information

Molecular Formula C4 H10 O

tert-Butyl alcohol, ACS Revision Date 24-Jan-2024

Molecular Weight 74.12

Explosive Properties Vapors may form explosive mixtures with air

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

May form explosive peroxides.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

10.4. Conditions to avoid

Incompatible products. Excess heat. Keep away from open flames, hot surfaces and

sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Alkali metals.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met Dermal Based on available data, the classification criteria are not met

Inhalation Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	
tert-Butyl alcohol	>3100 mg/kg (Rat)	>2000 mg/kg (Rabbit)	>31 mg/L/4h (Rat)	

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

Test species rabbit
Observational endpoint rabbit
Irritating

(c) serious eye damage/irritation; Category 2 Test species Category 2

Observation end point Irritating to eyes

(d) respiratory or skin sensitization;

RespiratorySkin
Based on available data, the classification criteria are not met
Based on available data, the classification criteria are not met

Component	Test method	Test species	Study result
tert-Butyl alcohol	OECD Test Guideline 406	guinea pig	non-sensitising
75-65-0 (>95)	Skin sensitization		_

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

tert-Butyl alcohol, ACS

Revision Date 24-Jan-2024

Component	Test method	Test species	Study result
tert-Butyl alcohol	AMES test	in vitro	negative
75-65-0 (>95)			_

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

Category 3 (h) STOT-single exposure;

Results / Target organs Respiratory system, Central nervous system (CNS).

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

None known. **Target Organs**

Based on available data, the classification criteria are not met (j) aspiration hazard;

delayed

Symptoms / effects,both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

tiredness, nausea and vomiting.

11.2. Information on other hazards

Endocrine Disrupting Properties

Assess endocrine disrupting properties for human health. This product does not contain any

known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects Do not empty into drains. .

Component	Freshwater Fish	Water Flea	Freshwater Algae
tert-Butyl alcohol	LC50 >961 mg/L/96h (Pimephales promelas)	EC50 933 mg/L 48 h	EC50 1000 mg/L 72 h

Component	Microtox	M-Factor
tert-Butyl alcohol	EC50 > 10000 mg/L 17 h	

12.2. Persistence and degradability Readily biodegradable

Persistence

Persistence is unlikely, based on information available.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
tert-Butyl alcohol	0.317	1.09 dimensionless

The product contains volatile organic compounds (VOC) which will evaporate easily from all 12.4. Mobility in soil

surfaces Will likely be mobile in the environment due to its volatility. Disperses rapidly in

air

12.5. Results of PBT and vPvB

assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent

and very bioaccumulative (vPvB).

tert-Butyl alcohol, ACS Revision Date 24-Jan-2024

12.6. Endocrine disrupting

properties

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused

Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers

retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and

empty container away from heat and sources of ignition.

According to the European Waste Catalog, Waste Codes are not product specific, but **European Waste Catalogue (EWC)**

application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product

was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with

local regulations.

Switzerland - Waste Ordinance Disposal should be in accordance with applicable regional, national and local laws and

regulations. Ordinance on the Avoidance and the Disposal of Waste (Waste Ordinance,

ADWO) SR 814.600

https://www.fedlex.admin.ch/eli/cc/2015/891/en

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN1120 14.1. UN number **BUTANOLS** 14.2. UN proper shipping name

14.3. Transport hazard class(es) 14.4. Packing group

II

ADR

14.1. UN number UN1120 14.2. UN proper shipping name **BUTANOLS**

14.3. Transport hazard class(es) 14.4. Packing group II

IATA

14.1. UN number UN1120 **BUTANOLS** 14.2. UN proper shipping name

14.3. Transport hazard class(es) 3 14.4. Packing group II

14.5. Environmental hazards No hazards identified

No special precautions required. 14.6. Special precautions for user

14.7. Maritime transport in bulk according to IMO instruments

Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
tert-Butyl alcohol	75-65-0	200-889-7	-	-	Χ	Χ	KE-24895	Χ	Χ
Component	CACNIC	TCCA	TCCA In	····	Del	MDGI	AICC	NZIAC	DICCC

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
tert-Butyl alcohol	75-65-0	Х	ACTIVE	Χ	-	Χ	Χ	Χ

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization		REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
tert-Butyl alcohol	75-65-0	-	Use restricted. See item 75. (see link for restriction details)	•

REACH links

https://echa.europa.eu/substances-restricted-under-reach

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Seveso III Directive (2012/18/EC) -	
		Qualifying Quantities for Major Accident Qualifying Quantities for Safet	
		Notification	Requirements
tert-Butyl alcohol	75-65-0	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)? Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification See table for values

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class

tert-Butyl alcohol, ACS

tert-Butyl alcohol	WGK1	

Component	France - INRS (Tables of occupational diseases)	
tert-Butyl alcohol	Tableaux des maladies professionnelles (TMP) - RG 84	

Swiss Regulations

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2).

Take note on Article 13 Maternity Ordinance (SR 822.111.52) with regards expectant and nursing mothers.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H332 - Harmful if inhaled

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

H225 - Highly flammable liquid and vapor

Legend

CAS - Chemical Abstracts Service

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

Revision Date 24-Jan-2024

Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (volatile organic compound)

Key literature references and sources for data

https://echa.europa.eu/information-on-chemicals

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts. Chemical incident response training.

Prepared By Health, Safety and Environmental Department

Creation Date 07-Sep-2010 **Revision Date** 24-Jan-2024

tert-Butyl alcohol, ACS

Revision Date 24-Jan-2024

Revision Summary

New emergency telephone response service provider.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No. 1907/2006

For Switzerland - Compiled in accordance with the technical provisions referred to in Annex 2, Number 3, ChemO (SR 813.11 - Ordinance on Protection against Dangerous Substances and Preparations).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet