

SDS Tertiary Butanol

Date of Issue: 27/09/2019

Expiry: 01/10/2024

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name **ECP Limited**
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Product	Tert-Butanol			Code	BA060, LC059	
CAS#	HSNO#	UN #	DG Class/es	Packing group #	Tracking?	Handlers Certificate?
75-65-0	HSR001099	1120	3	II	No	No

Recommended use: Laboratory Investigations

2. Hazards identification

New Zealand hazards classification: 3.1B, 6.1E (All), 6.1E (O), 6.1E (I), 6.3B, 6.4A

2.1 GHS Classification

Flammable Liquids (Category B), H225
Acute toxicity, Oral (Category E), H303
Acute toxicity, Dermal (Category E), H313
Skin irritation (Category B), H316
Serious eye damage (Category A), H318

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Danger**

Hazard statement(s)

H225 Highly flammable liquid and vapour.
H303 May be harmful if swallowed.
H313 May be harmful in contact with skin.
H316 Causes mild skin irritation.
H318 Causes serious eye damage.

Precautionary statement(s)

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.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Substance/mixture: substance

3.1 Substances

Synonyms: 2-Methyl-2-propanol

Trimethyl carbinol

tert-Butyl alcohol

Formula: C₄H₁₀O

Molecular weight: 74.12 g/mol

CAS No.: 75-65-0

Hazardous components:

Component	Classification	Concentration
tert-Butyl alcohol		
	3.1 B; 6.1 E; 6.3 B; 8.3 A; H225, H303, H313, H316, H318 Concentration limits: 20 %: STOT SE 3, H335	<=100%

4. First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Dry powder, dry sand.

Unsuitable extinguishing media

Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides

Flash back possible over considerable distance.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray to cool unopened containers.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 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.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

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.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits Table

Component	CAS No.	Value	Control parameters	Basis
tert-Butyl alcohol	75-65-0	WES-TWA	100 ppm 303 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
		WES-STEL	150 ppm 455 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: liquid

b) Odour

Camphor-like

d) pH

at 20 °C: neutral

e) Melting point/freezing point

Melting point/range: 23 - 26 °C

f) Initial boiling point and boiling range

83 °C

g) Flash point

15 °C - closed cup

j) Upper/lower flammability or explosive limits

Upper explosion limit: 8.0 %(V)

Lower explosion limit: 2.3 %(V)

k) Vapour pressure

40.7 hPa at 20 °C

l) Vapour density

2.56

m) Relative density

0.775 g/mL at 25 °C

n) Water solubility

Soluble

o) Partition coefficient: n-octanol/water

log Pow: 0.30 - Bioaccumulation is not expected.

10. Stability and reactivity

10.1 Chemical stability

Stable under recommended storage conditions.

10.2 Conditions to avoid

Heat, flames and sparks.

10.3 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions:

Carbon oxides

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - 2,733 mg/kg

(US-EPA)

Remarks: The component/mixture is minimally toxic after single ingestion.

LC50

Inhalation - Rat - male and female - 4 h - 36 mg/l

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 24 h

(Draize Test)

Serious eye damage/eye irritation

Eyes - Rabbit

(US-EPA)

Respiratory or skin sensitisation

Sensitisation test (Magnusson and Kligman): - Guinea pig

Result: negative

(OECD Test Guideline 406)

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

Mouse - male and female - Red blood cells (erythrocytes)

Result: negative

Carcinogenicity

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.

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation. - Respiratory system

Inhalation - May cause drowsiness or dizziness. - Nervous system

Additional Information

RTECS: EO1925000

Drying, cracking of the skin, skin irritation.

Liver - Irregularities - Based on Human Evidence.

12. Ecological information

12.1 Toxicity

Toxicity to fish flow-through test

LC50 - Pimephales promelas (fathead minnow) - > 961 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

static test

EC50 - Daphnia magna (Water flea) - 933 mg/l - 48 h

Toxicity to algae IC50 - Desmodesmus subspicatus (green algae) - > 1,000 mg/l - 72h

Remarks: (IUCLID)

Toxicity to bacteria

EC10 - Pseudomonas putida - 6,900 mg/l - 16 h

Remarks: (External MSDS)

12.2 Persistence and degradability

Biodegradability Result: > 99.9 % - Readily eliminated from water

(OECD Test Guideline 302B)

13. Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Contaminated packaging

Dispose of as unused product.

14. Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	1120	1120	1120
14.2	UN Proper Shipping name	BUTANOLS	BUTANOLS	Butanols
14.3	Transport Hazard Class	3	3	3
14.4	Packaging group	II	II	II
14.5	Environmental Hazards	No	No	No
14.6	Special precautions for user	None		

15. Regulatory information

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

National regulatory information

HSNO Approval Code: HSR001099

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group
Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

16. Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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