
Material Safety Data Sheet

Product Name	<u>Tert-Butanol</u>
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Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:**Product Description:** Tert-Butanol**Cat No. :** 20335, 30334, 70334**Synonyms:** tert-Butyl alcohol; 2-Methyl-2-propanol; Trimethyl carbinol**CAS-No:** 75-65-0**EC-No.:** 200-889-7**Molecular Formula:** (CH₃)₃COH**REACH Registration No:** Not Applicable**1.2. Relevant identified uses of the substance or mixture and uses advised against:****Recommended Use:** Laboratory chemicals, Manufacture of substances**1.3. Details of the supplier of the safety data sheet:**

- **Company** **Finar Limited**
184-186/P, Chacharwadi Vasna,
Sarkhej-Bavla Highway,
Ta.: Sanand, Dist.: Ahmedabad,
Email: info@finarchemicals.com
Web: www.finarchemicals.com
- **E-Mail Address** safety@finarchemicals.com; info@finarchemicals.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717,
- Registered office No: +91 - 79 – 40040085

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SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Inhalation (Category 4), H332

Eye irritation (Category 2), H319

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:

Labeling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H332

Harmful if inhaled.

H335

May cause respiratory irritation.

H336

May cause drowsiness or dizziness.

Precautionary statement(s)

P210

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

P304 + P340 + P312

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338

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

Supplemental Hazard Statements

None

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2.3. Other Hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances: Tert-Butanol**

CAS-No: 75-65-0

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Tert-Butanol	75-65-0	200-889-7	<= 100 %

SECTION 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**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

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

No Data Available

SECTION 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.

SECTION 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.

For personal protection see section 8.

6.2. Environmental precautions:

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

6.3. Methods and material 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 according to local / national regulations (see section 13).

6.4. Reference to other sections:

For disposal see Sections 13.

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SECTION 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 buildup of electrostatic charge. For precautions see section 2.2.

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. Store in cool place.

7.3. Specific end use(s):

Apart from the uses mention in section 1.2 No other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters:**

Components with workplace control parameters

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 such as NIOSH (US) or EN 166(EU).

- **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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm

Break through time: 480 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 30 min

- If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
- **Body Protection** - Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., 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 respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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 such as NIOSH (US) or CEN (EU).
- **Environmental Exposure Controls**-
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:**
- **Physical State** - Liquid
- **Odor** - camphor-like
- **pH** - at 20 °C Neutral
- **Melting Point:** - Melting point/range: 23°C - 26 °C
- **Critical Temperature:** No data available

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- **Vapor Pressure:** No data available
- **Vapor Density:** 2.56 (Air = 1)
- **Volatility:** No data available
- **Odor Threshold:-** 219 ppm
- **Water/Oil Dist. Co eff.:-** The product is more soluble in oil; $\log(\text{oil/water}) = 0.4$
- **Ionicity (in Water):** No data available
- **Boiling Point/Range:-** 82.41°C (180.3°F)
- **Flash Point:** No data available
- **Specific Gravity / Density:-** 0.78581 (Water = 1)
- **Solubility:** - Soluble in cold water, hot water. Miscible in esters, aliphatic and aromatic hydrocarbons, alcohol, and ether.

9.2. Other information:

Molecular Formula:- $(\text{CH}_3)_3\text{COH}$

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:- No data available

10.2. Chemical stability:- Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions:- No data available

10.4. Conditions to avoid:- Heat, flames and sparks.

10.5. Incompatible materials:- No data available

10.6. Hazardous decomposition products:-

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

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SECTION 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. (Regulation (EC)

No 1272/2008, Annex VI)

LC50 Inhalation - Rat - male and female - 4 h - 36 mg/l

(OPPTS 870.1300)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

- **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 sensitization**

Sensitisation test (Magnusson and Kligman): - Guinea pig

Result: negative

(OECD Test Guideline 406)

- **Germ cell mutagenicity**

No data available

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: negative

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

Result: negative

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- **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.
- **Reproductive toxicity**
No data available
- **Specific target organ toxicity - single exposure**
Inhalation - May cause respiratory irritation. - Respiratory system
Inhalation - May cause drowsiness or dizziness. - Nervous system
- **Specific target organ toxicity - repeated exposure**
No data available
- **Aspiration hazard**
No data available
- **Additional Information**
RTECS: EO1925000
drying, cracking of the skin, Skin irritation
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly Investigated.
Liver - Irregularities - Based on Human Evidence

SECTION 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- EC50- Daphnia magna (Water flea)- 933 mg/l – 48 h
And other aquatic (Directive 67/548/EEC, Annex V, C.2.)
- Toxicity to algae - IC50 - Desmodesmus subspicatus (green algae) – 1.000 mg/l - 72 h
Remarks: (IUCLID)
- Toxicity to bacteria - EC10 - Pseudomonas putida - 6.900 mg/l - 16 h
Remarks: (External MSDS)

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12.2 Persistence and degradability

Biodegradability Result: > 99,9 % - Readily eliminated from water
(OECD Test Guideline 302B)

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Stability in water Remarks: No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- **Product:**

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

- **Contaminated packaging**

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number:

ADR/RID: 1120

IMDG: 1120

IATA: 1120

14.2 UN proper shipping name

ADR/RID: BUTANOLS

IMDG: BUTANOLS

IATA: Butanols

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14.3 Transport hazard class(es)

ADR/RID: - 3	IMDG: - 3	IATA: - 3
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14.4 Packing Group

ADR/RID: - II	IMDG: - II	IATA: - II
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14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: no	IATA: no
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14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)

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15.2 Chemical safety assessment For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

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|------|-------------------------------------|
| H225 | Highly flammable liquid and vapour. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |

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References: Not available

Created: 18/09/2019

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