

## Chemical Safety Data Sheet MSDS / SDS

**TERT-BUTYL FORMATE**

Revision Date:2026-05-31 Revision Number:1

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : TERT-BUTYL FORMATE  
CBnumber : CB8377937  
CAS : 762-75-4  
EINECS Number : 212-105-0  
Synonyms : tert-Butyl Formate,Formic acid, 1,1-dimethylethyl ester

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

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

Continuerinsing.

**Hazard statements**

H225 Highly Flammable liquid and vapour

H319 Causes serious eye irritation

H335 May cause respiratory irritation

**SECTION 3: Composition/information on ingredients**

## Substance

Product name	: TERT-BUTYL FORMATE
Synonyms	: tert-Butyl Formate, Formic acid, 1,1-dimethylethyl ester
CAS	: 762-75-4
EC number	: 212-105-0
MF	: C5H10O2
MW	: 102.13

---

## SECTION 4: First aid measures

### General advice

Show this safety data sheet to the doctor in attendance.

### If inhaled

After inhalation: fresh air.

### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

### Protection of first-aiders

For personal protection see section 8.

### Notes to physician

No data available

---

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### Specific hazards during fire fighting

Combustible. Pay attention to flashback. Vapours are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

### **Hazardous combustion products**

Carbon oxides

### **Specific extinguishing methods**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### **Special protective equipment for fire-fighters**

In the event of fire, wear self-contained breathing apparatus.

---

## SECTION 6: Accidental release measures

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

### **Environmental precautions**

Do not let product enter drains. Risk of explosion.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

---

## SECTION 7: Handling and storage

### **Handling**

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### **Avoidance of contact**

Strong oxidizing agents Strong bases

### **Storage**

#### **Further information on storage conditions**

Keep container tightly closed in a dry and wellventilated place. Keep away from heat and sources of ignition.

#### **Storage class**

3, Flammable liquids

#### **Recommended storage temperature**

Recommended storage temperature see product label.

## SECTION 8: Exposure controls/personal protection

### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

### Engineering measures

No data available

### Personal protective equipment

#### Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

#### Recommended Filter type

Filter type ABEK

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Safety glasses

#### Skin and body protection

Flame retardant antistatic protective clothing.

#### Hand protection

#### Remarks

required

#### Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

---

## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

liquid

---

#### Color

colourless

#### Odor

No data available

#### Odor Threshold

No data available

#### pH

No data available

**Melting point/ range**

No data available

**Boiling point/boiling range**

82 - 83 °C

**Flash point**

-9 °C

Method: closed cup

**Evaporation rate**

No data available

**Flammability (solid, gas)**

No data available

**Flammability (liquids)**

No data available

**Burning rate**

No data available

**Upper explosion limit / Upper flammability limit**

No data available

**Lower explosion limit / Lower flammability limit**

No data available

**Vapor pressure**

No data available

**Relative vapor density**

No data available

**Relative density**

0.872 g/mL at 25 °C (lit.)

**Density**

0.872 g/mL (25 °C)

**Water solubility**

No data available

**Partition coefficient: n-octanol/water**

No data available

#### **Autoignition temperature**

No data available

#### **Decomposition temperature**

No data available

#### **Viscosity, dynamic**

No data available

#### **Viscosity, kinematic**

No data available

#### **Flow time**

No data available

#### **Explosive properties**

No data available

#### **Oxidizing properties**

No data available

#### **Molecular weight**

102.13 g/mol

#### **Particle characteristics Particle size**

No data available

#### **Solubility**

Acetonitrile (Slightly), Chloroform (Slightly)

#### **Physical state**

Colourless Oil

---

## SECTION 10: Stability and reactivity

#### **Reactivity**

Vapours may form explosive mixture with air.

#### **Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

#### **Possibility of hazardous reactions**

No data available

## Conditions to avoid

Warming.

## Incompatible materials

Strong oxidizing agents Strong bases

## Hazardous decomposition products

In the event of fire: see section 5

---

# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

### Acute toxicity

Oral: No data available

LD50 Oral - 2,500 mg/kg

Inhalation: No data available

Dermal: No data available

### Skin corrosion/irritation

Remarks: No data available

### Serious eye damage/eye irritation

Remarks: No data available

### Respiratory or skin sensitization

Causes sensitisation.

### Germ cell mutagenicity

Classified based on available data. For more details, see section 2

### Carcinogenicity

Classified based on available data. For more details, see section 2

### Reproductive toxicity

Classified based on available data. For more details, see section 2

### Specific target organ toxicity - single exposure

May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

### Aspiration hazard

Classified based on available data. For more details, see section 2

## 11.2 Additional Information

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache,

Nausea, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

---

## SECTION 12: Ecological information

### Ecotoxicity

#### Components:

##### tert-Butyl formate:

#### Toxicity to fish

Remarks: No data available

### Persistence and degradability

#### Components:

##### tert-Butyl formate:

#### Biodegradability

Remarks: No data available

### Bioaccumulative potential

#### Components:

##### tert-Butyl formate:

#### Bioaccumulation

Remarks: No data available

### Mobility in soil

#### Components:

##### tert-Butyl formate:

#### Stability in soil

Remarks: No data available

### Other adverse effects

#### Components:

##### tert-Butyl formate:

#### Additional ecological information

No data available

---

## SECTION 13: Disposal considerations

### Disposal methods

## Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

---

# SECTION 14: Transport information

## International Regulations

### IATA-DGR

UN/ID No. : UN 3272

Proper shipping name : Esters, n.o.s.

(tert-Butyl formate)

Class : 3

Packing group : II

Labels : Class 3 - Flammable liquids

Packing instruction (cargo aircraft) : 364

Packing instruction (passenger aircraft) : 353

### IMDG-Code

UN number : UN 3272

Proper shipping name : ESTERS, N.O.S.

(tert-Butyl formate)

Class : 3

Packing group : II

Labels : 3

EmS Code : F-E, S-D

Marine pollutant : no

## Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## National Regulations

### JT/T 617

UN number : UN 3272

Proper shipping name : ESTERS, N.O.S.

(tert-Butyl formate)

Class : 3

Packing group : II

Labels : 3

Environmentally hazardous : no

## Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and

variations in regional or country regulations.

---

## SECTION 15: Regulatory information

### National regulatory information

#### Regulations on Safety Management of Hazardous Chemicals

#### Catalogue of Hazardous Chemicals

#### Hazardous Chemicals for Priority Management

Listed under SAWS

#### Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

#### China Severely Restricted Toxic Chemicals for Import and Export

Listed

---

## SECTION 16: Other information

### Full text of other abbreviations

AllC - Australian Inventory of Industrial Chemicals

ANTT - National Agency for Transport by Land of Brazil

ASTM - American Society for the Testing of Materials

bw - Body weight

CMR - Carcinogen, Mutagen or Reproductive Toxicant

DIN - Standard of the German Institute for Standardisation

DSL - Domestic Substances List (Canada)

EC<sub>x</sub> - Concentration associated with x% response

EL<sub>x</sub> - Loading rate associated with x% response

EmS - Emergency Schedule

ENCS - Existing and New Chemical Substances (Japan)

ErC<sub>x</sub> - Concentration associated with x% growth rate response

ERG - Emergency Response Guide

GHS - Globally Harmonised System

GLP - Good Laboratory Practice

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

IC<sub>50</sub> - Half maximal inhibitory concentration

ICAO - International Civil Aviation Organization

IECSC - Inventory of Existing Chemical Substances in China

IMDG - International Maritime Dangerous Goods  
IMO - International Maritime Organisation  
ISHL - Industrial Safety and Health Law (Japan)  
ISO - International Organisation for Standardisation  
KECI - Korea Existing Chemicals Inventory  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
MARPOL - International Convention for the Prevention of Pollution from Ships  
MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods  
n.o.s. - Not Otherwise Specified  
Nch - Chilean Norm  
NO(A)EC - No Observed (Adverse) Effect Concentration  
NO(A)EL - No Observed (Adverse) Effect Level  
NOELR - No Observable Effect Loading Rate  
NOM - Official Mexican Norm  
NTP - National Toxicology Program  
NZIoC - New Zealand Inventory of Chemicals  
OECD - Organisation for Economic Co-operation and Development  
OPPTS - Office of Chemical Safety and Pollution Prevention  
PBT - Persistent, Bioaccumulative and Toxic substance  
PICCS - Philippines Inventory of Chemicals and Chemical Substances  
(Q)SAR - (Quantitative) Structure Activity Relationship  
REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals  
SADT - Self-Accelerating Decomposition Temperature  
SDS - Safety Data Sheet  
TCSI - Taiwan Chemical Substance Inventory  
TDG - Transportation of Dangerous Goods  
TECI - Thailand Existing Chemicals Inventory  
TSCA - Toxic Substances Control Act (United States)  
UN - United Nations  
UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods  
vPvB - Very Persistent and Very Bioaccumulative  
WHMIS - Workplace Hazardous Materials Information System

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.