

## Chemical Safety Data Sheet MSDS / SDS

**1,2,3-Trimethylbenzene**Revision Date:2025-01-11 Revision Number:1

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

Product name : 1,2,3-Trimethylbenzene  
CBnumber : CB6853732  
CAS : 526-73-8  
EINECS Number : 208-394-8  
Synonyms : 1,2,3-trimethylbenzene,benzene,1,2,3-trimethyl-

**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 : 400-158-6606

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Flammable liquids, Category 3  
Skin irritation, Category 2  
Eye irritation, Category 2

**Label elements****Pictogram(s)**

☐

Signal word : Warning

**Hazard statement(s)**

H226 Flammable liquid and vapour  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation

**Precautionary statement(s)**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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

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#### Prevention

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

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

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

P264 Wash ... thoroughly after handling.

#### Response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

P370+P378 In case of fire: Use ... to extinguish.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see ... on this label).

P332+P317 If skin irritation occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

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

#### Storage

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

#### Disposal

P501 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

no data available

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## SECTION 3: Composition/information on ingredients

#### Substance

Product name	: 1,2,3-Trimethylbenzene
Synonyms	: 1,2,3-trimethylbenzene,benzene,1,2,3-trimethyl-
CAS	: 526-73-8
EC number	: 208-394-8
MF	: C9H12
MW	: 120.19

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## SECTION 4: First aid measures

#### Description of first aid measures

**If inhaled**

Fresh air, rest. Refer for medical attention.

**Following skin contact**

Rinse skin with plenty of water or shower.

**Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

**Following ingestion**

Rinse mouth. Do NOT induce vomiting. Refer for medical attention .

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

no data available

**Indication of any immediate medical attention and special treatment needed**

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Aromatic hydrocarbons and related compounds

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## SECTION 5: Firefighting measures

**Extinguishing media**

This chemical is a flammable liquid. Poisonous gases are produced in fire. Small fires: dry chemical, carbon dioxide, water spray, or alcohol-resistant foam. Large fires: water spray, fog, or alcohol foam. Move container from fire if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitoring nozzles; if this is impossible, withdraw from area and let fire burn. Isolate for one-half mile in all directions if tank car or truck is involved in fire. Vapors are heavier than air and will collect in low areas. Vapors may travel long distances to ignition sources and flashback. Vapors in confined areas may explode when exposed to fire. Containers may explode in fire. Storage containers and parts of containers may rocket great distances, in many directions. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Notify local health and fire officials and pollution control agencies. From a secure, explosion-proof location, use water spray to cool exposed containers. If cooling streams are ineffective (venting sound increases in volume and pitch, tank discolors, or shows any signs of deforming), withdraw immediately to a secure position. If employees are expected to fight fires, they must be trained and equipped in OSHA 1910.156. Trimethyl benzenes

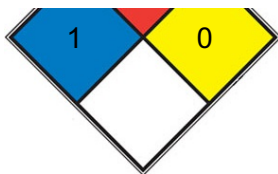
**Specific Hazards Arising from the Chemical**

Flammable. Above 44°C explosive vapour/air mixtures may be formed.

**Advice for firefighters**

Use alcohol-resistant foam, foam, powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

**NFPA 704**



■ HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely

■ FIRE 2 divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, [sulfur](#))

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

□ SPEC.

□ HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

### Environmental precautions

Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT wash away into sewer.

### Methods and materials for containment and cleaning up

Evacuate and restrict persons not wearing protective equipment from area of spill or leak until cleanup is complete. Remove all ignition sources. Establish forced ventilation to keep levels below explosive limit. Absorb liquids in vermiculite, dry sand, earth, peat, carbon, or similar material and deposit in sealed containers. Keep this chemical out of a confined space ... because of the possibility of an explosion ... It may be necessary to contain and dispose of this chemical as a hazardous waste. If material or contaminated runoff enters waterways, notify downstream users of potentially contaminated waters. Contact your Department of Environmental Protection or your regional office of the federal EPA for specific recommendations. If employees are required to clean up spills, they must be properly trained and equipped. OSHA 1910.120(q) may be applicable. Trimethyl benzenes

## SECTION 7: Handling and storage

### Precautions for safe handling

NO open flames, NO sparks and NO smoking. Above 44°C use a closed system, ventilation and explosion-proof electrical equipment. Prevent build-up of electrostatic charges (e.g., by grounding). Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Fireproof. Well closed. Separated from oxidants. Prior to working with this chemical you should be trained on its proper handling and storage. Before entering a confined space where this chemical may be present, check to make sure that an explosive concentration does not exist.

Trimethylbenzene must be stored to avoid contact with oxidizers (such as perchlorates, peroxides, permanganates, chlorates, and nitrates), and strong oxidizers (such as chlorine, bromine, and fluorine) since violent reactions occur. Store in tightly closed containers in a cool, well-ventilated area away from heat. Sources of ignition such as smoking and open flames are prohibited where this chemical is used, handled, or stored in a manner that could create a potential fire or explosion hazard. Metal containers involving the transfer of 5 gallons or more of this chemical should be grounded and bonded. Drums must be equipped with self-closing valves, pressure vacuum bungs, and flame arresters. Use only nonsparking tools and equipment, especially when opening and closing containers of this chemical. Trimethyl benzenes

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

EU-OEL: 100 mg/m<sup>3</sup>, 20 ppm as TWA.MAK: 100 mg/m<sup>3</sup>, 20 ppm; peak limitation category: II(2); pregnancy risk group: C

#### Biological limit values

no data available

### Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures

#### Eye/face protection

Wear safety spectacles.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	neat
Colour	Colorless liquid
Odour	Distinctive, aromatic odor
Melting point/freezing point	271°C(lit.)
Boiling point or initial boiling point and boiling range	176°C
Flammability	Flammable Liquid
Lower and upper explosion limit/flammability limit	Lower flammable limit: 0.8% by volume; Upper flammable limit: 6.6% by volume
Flash point	44°C(lit.)

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Auto-ignition temperature	878 deg F (470 deg C)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	Soluble in acetone, alcohol, benzene, and ether (Weast, 1986)
Partition coefficient n-octanol/water	log Kow = 3.66
Vapour pressure	3.4 mm Hg ( 37.7 °C)
Density and/or relative density	0.894
Relative vapour density	4.15 (vs air)
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

### Reactivity

Reacts with oxidants. This generates fire and explosion hazard.

Decomposes on burning. This produces toxic and irritating fumes. Reacts violently with strong oxidants. This generates fire and explosion hazard.

### Chemical stability

no data available

### Possibility of hazardous reactions

Reacts with oxidants. This generates fire and explosion hazard.

### Conditions to avoid

no data available

### Incompatible materials

Oxidizers (perchlorates, peroxides, permanganates, chlorates, nitrates), strong oxidizers (chlorine, bromine, fluorine), and nitric acid. Trimethyl benzenes

### Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

### Skin corrosion/irritation

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

Test Type: Ames test

Test system: Salmonella typhimurium TA100, TA1535, TA98, TA1537, E. coli WP2 uvrA

Method: Guidelines for Screening Mutagenicity Testing of Chemicals (Japan)

Metabolic activation: with and without metabolic activation

Result:Negative

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster lung (CHL) cells

Method: Guidelines for Screening Mutagenicity Testing of Chemicals (Japan)

Metabolic activation: with and without metabolic activation

Result:This chemical slightly increased incidences of structural chromosomal aberrations with an exogenous metabolic activation system.

Clear reproducibility was obtained the confirmation study.

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis.

### **STOT-repeated exposure**

no data available

### **Aspiration hazard**

A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20°C.

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## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

## Persistence and degradability

AEROBIC: 1,2,3-Trimethylbenzene, present at 100 mg/L, reached 0% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L and the Japanese MITI test(1). 1,2,3-Trimethylbenzene had a 99(2) and 100%(3) removal in acclimated sludge and activated sludge, respectively. The concentration of 1,2,3-trimethylbenzene was reduced from 4.24 mg/L to 0.0 mg/L in 25 days at 30 deg C using a sewage inoculum(4). Biodegradation of 1,2,3-trimethylbenzene was classified as moderate in a marine environment(5). 1,2,3-Trimethylbenzene was reduced to zero in 23 days in sewage using a natural microbial flora with aeration and was reduced without aeration(6).

## Bioaccumulative potential

The BCF of 1,2,3-trimethylbenzene was 133-217 at a concentration of 150 ppb and 136-259 at a concentration of 15 ppb using carp (*Cyprinus carpio*) which were exposed over an 8-week period(1). According to a classification scheme(2), these BCFs suggest bioconcentration in aquatic organisms is high(SRC).

## Mobility in soil

1,2,3-Trimethylbenzene has measured log Koc values of 3.04(1) and 2.80(2-5). These values correspond to Koc values of 1,096 and 630. 1,2,3-Trimethylbenzene also has a reported log Kom value of 2.80(6-7). According to a classification scheme(8), these Koc values suggest that 1,2,3-trimethylbenzene is expected to have low mobility in soil(SRC).

## Toxics Screening Level

The acute initial threshold screening level (ITSL) for all trimethylbenzene (TMB) isomers combined is 1200 µg/m<sup>3</sup> with 8-hr averaging time.

## Other adverse effects

no data available

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# SECTION 13: Disposal considerations

## Disposal methods

### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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# SECTION 14: Transport information

## UN Number

ADR/RID: UN3295 (For reference only, please check.)

IMDG: UN3295 (For reference only, please check.)

IATA: UN3295 (For reference only, please check.)

## UN Proper Shipping Name



ADR/RID: HYDROCARBONS, LIQUID, N.O.S. (For reference only, please check.)

IMDG: HYDROCARBONS, LIQUID, N.O.S. (For reference only, please check.)

IATA: HYDROCARBONS, LIQUID, N.O.S. (For reference only, please check.)

### **Transport hazard class(es)**

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

### **Packing group, if applicable**

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

### **Special precautions for user**

no data available

### **Transport in bulk according to IMO instruments**

no data available

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## SECTION 15: Regulatory information

### **Safety, health and environmental regulations specific for the product in question**

#### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

#### **EC Inventory**

Listed.

#### **United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

#### **China Catalog of Hazardous chemicals 2015**

Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Listed.

#### **PICCS**

Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC**

Listed.

## Korea Existing Chemicals List (KECL)

Listed.

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## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Use of alcoholic beverages enhances the harmful effect. See ICSCs 1155 and 1389.

#### 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.