

**SAFETY DATA SHEET** according  
to GB/T 16483 and GB/T 17519Version 8.0  
Revision Date 27.08.2022  
Print Date 27.04.2023  
Date of first issue 27.08.2022SDS No. Aldrich - 157120  
Product Number Aldrich - 157120**4-*tert*-Butylbenzoyl chloride****SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**Product name : 4-*tert*-Butylbenzoyl chlorideProduct Number : 157120  
Brand : Aldrich  
CAS-No. : 1710-98-1**1.2 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich (Shanghai) Trading Co.Ltd.  
509 Renqing Road  
Zhangjiang High Tech East Park, Pudong  
SHANGHAI  
201201 SHANGHAI  
CHINA西格玛奥德里奇（上海）贸易有限公司  
上海市浦东新区仁庆路 509 号 10 幢  
邮政编码：201201Merck KGaA  
64271 Darmstadt  
Germany  
Phone: +49 6151 72-0Telephone : +86 21 6141-5566  
Fax : +86 21 6141-5567**1.3 Emergency telephone**

Emergency Phone # : +86 532 83889090

**1.4 Relevant identified uses of the substance or mixture and uses advised against**Identified uses : For R&D use only. Not for pharmaceutical, household or other  
uses.**SECTION 2: Hazards identification****Summary of emergency**

clear, liquid light yellow Combustible liquid., Causes severe skin burns and eye damage. First aiders need to protect themselves., Show this material safety data sheet to the doctor in attendance. After inhalation: fresh air. Call in physician. In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower., Call a physician immediately. After eye contact: rinse out with plenty of water., Immediately call in ophthalmologist., Remove contact lenses. After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation)., Call a physician immediately., Do not attempt to neutralise. Combustible. Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire. Violent reactions possible with: Oxidizing agents, strong reducing agents, Bases, Alcohols

## 2.1 GHS Classification

Flammable liquids (Category 4), H227

Skin corrosion/irritation (Category 1B), H314

Serious eye damage/eye irritation (Category 1), H318

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

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Danger

Hazard statement(s)

H227

Combustible liquid.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

Prevention

P210

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

P264

Wash skin thoroughly after handling.

P280

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

Response

P301 + P330 + P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P363

Wash contaminated clothing before reuse.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

P403 + P235

Store in a well-ventilated place. Keep cool.

P405

Store locked up.

Disposal

P501

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

**Reduced Labeling (<= 125 ml)**

Pictogram



Signal Word

Danger

Hazard statement(s)

H227

Combustible liquid.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

none

### 2.3 Physical and chemical hazards

H227

Combustible liquid.

### 2.4 Health hazards

H314

Causes severe skin burns and eye damage.

H318

Causes serious eye damage.

### 2.5 Environmental hazards

Referring to current information, no environmental hazard.

### 2.6 Other hazards - none

## SECTION 3: Composition/information on ingredients

Substance / Mixture : Substance

### 3.1 Substances

Formula

:  $C_{11}H_{13}ClO$

Molecular weight

: 196.67 g/mol

CAS-No.

: 1710-98-1

EC-No.

: 216-973-1

#### Hazardous ingredients

Component	Classification	Concentration
<b>p-tert-Butylbenzoyl chloride</b>		
	Flammable liquids Category 4; Skin corrosion/irritation Category 1B; Serious eye damage/eye irritation Category 1; H227, H314, H318	<= 100 %

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

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

**In case of skin contact**

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

**In case of eye contact**

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

**If swallowed**

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

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

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

No data available

**4.4 Notes to physician**

No data available

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**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

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

**Unsuitable extinguishing media**

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

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Hydrogen chloride gas

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, 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.

For personal protection see section 8.

**6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 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.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe 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.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.  
For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

#### **Storage conditions**

Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons.

Hydrolyzes readily.

#### **Storage class**

Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

#### **Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

#### **Personal protective equipment**

##### **Eye/face protection**

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

##### **Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).  
Full contact  
Material: Viton®

Minimum layer thickness: 0.7 mm  
Break through time: 480 min  
Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 30 min

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

### **Body Protection**

protective clothing

### **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.

### **Control of environmental exposure**

Do not let product enter drains.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |   |  |
|---|--|
| a) Physical state                               | clear, liquid  |
| b) Color  | light yellow   |
| c) Odor   | No data available  |
| d) Melting point/freezing point                 | Melting point/range: 177.5 - 179 °C  |
| e) Initial boiling point and boiling range      | 135 °C at 27 hPa - lit.  |
| f) Flammability (solid, gas)                    | No data available  |
| g) Upper/lower flammability or explosive limits | No data available  |
| h) Flash point                                  | 87 °C - closed cup   |
| i) Autoignition temperature                     | No data available  |
| j) Decomposition temperature                    | No data available  |
| k) pH   | No data available  |
| l) Viscosity                                    | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| m) Water solubility                             | No data available  |

- |    |   |   |
|----|---|---|
| n) | Partition coefficient:<br>n-octanol/water | No data available                       |
| o) | Vapor pressure                            | No data available                       |
| p) | Density                                   | 1.007 g/cm <sup>3</sup> at 25 °C - lit. |
|    | Relative density                          | No data available                       |
| q) | Relative vapor<br>density                 | No data available                       |
| r) | Particle<br>characteristics               | No data available                       |
|    |   |   |
| s) | Explosive properties                      | No data available                       |
| t) | Oxidizing properties                      | none                                    |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Chemical stability

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

### 10.2 Possibility of hazardous reactions

Violent reactions possible with:

Oxidizing agents

strong reducing agents

Bases

Alcohols

### 10.3 Conditions to avoid

Strong heating.

### 10.4 Incompatible materials

No data available

### 10.5 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Inhalation: Irritating to respiratory system.

Dermal: No data available

#### Skin corrosion/irritation

Causes skin burns.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Additional Information**

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

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

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 12: Ecological information****12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Endocrine disrupting properties**

No data available

**12.7 Other adverse effects**

Possible decomposition products in case of hydrolysis are:  
hydrochloric acid

Discharge into the environment must be avoided.



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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 3265

IMDG: 3265

IATA-DGR: 3265

### 14.2 UN proper shipping name

ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (p-tert-Butylbenzoyl chloride)

IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (p-tert-Butylbenzoyl chloride)

IATA-DGR: Corrosive liquid, acidic, organic, n.o.s. (p-tert-Butylbenzoyl chloride)

### 14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA-DGR: 8

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA-DGR: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA-DGR: no

### 14.6 Special precautions for user

Based on chemical properties, choose appropriate tools and conditions of transport. Transporting tools shall be equipped with appropriate and sufficient firefighting equipment and emergency leaking installations. If transporting by road, please go along the specified route.

### 14.7 Incompatible materials

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## SECTION 15: Regulatory information

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

#### National regulatory information

#### Other regulations

Please pay attention on the waste treatment should also comply with local regulations requirement.

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## SECTION 16: Other information

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

H227 Combustible liquid.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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