

## Chemical Safety Data Sheet MSDS / SDS

## 4-Acetyl-4'-bromobiphenyl

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

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

Product name : 4-Acetyl-4'-bromobiphenyl  
CBnumber : CB4266556  
CAS : 5731-01-1  
EINECS Number : 227-236-9  
Synonyms : 1-(4'-bromo-[1,1'-biphenyl]-4-yl)ethan-1-one,4-Acetyl-4'-bromobiphenyl

**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

Warning

**Precautionary statements**

P273 Avoid release to the environment.

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**

H319 Causes serious eye irritation

H411 Toxic to aquatic life with long lasting effects

## SECTION 3: Composition/information on ingredients

**Substance**

Product name	: 4-Acetyl-4'-bromobiphenyl
Synonyms	: 1-(4'-bromo-[1,1'-biphenyl]-4-yl)ethan-1-one,4-Acetyl-4'-bromobiphenyl
CAS	: 5731-01-1
EC number	: 227-236-9
MF	: C14H11BrO
MW	: 275.14

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## 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

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## SECTION 5: Firefighting measures

### 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.

### Specific hazards during fire fighting

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

## Hazardous combustion products

Carbon oxides Hydrogen bromide gas

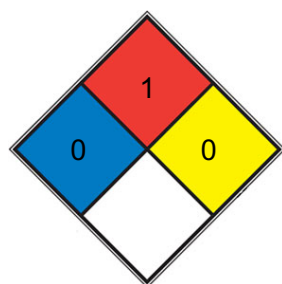
## Specific extinguishing methods

Suppress (knock down) gases/vapours/mists with a water spray jet. 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.

## NFPA 704



<input checked="" type="checkbox"/> HEALTH	0	Poses no health hazard, no precautions necessary and would offer no hazard beyond that of ordinary combustible materials
<input checked="" type="checkbox"/> FIRE	1	Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. <a href="#">mineral oil</a> , ammonia)
<input checked="" type="checkbox"/> REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, <a href="#">N<sub>2</sub></a> )
<input type="checkbox"/> SPEC.		
<input type="checkbox"/> HAZ.		

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. 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.

### 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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## SECTION 7: Handling and storage

## Handling

### Avoidance of contact

Strong oxidizing agents

## Storage

### Further information on storage conditions

Tightly closed. Dry.

### Storage class

11, Combustible Solids

### Recommended storage temperature

Recommended storage temperature see product label.

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## 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 dusts 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 P2

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

protective clothing

#### Hand protection

#### Material

Nitrile rubber

#### Break through time

480 min

#### Glove thickness

0.11 mm

#### Protective index

Full contact

**Manufacturer**

KCL 741 L

**Material**

Nitrile rubber

**Break through time**

480 min

**Glove thickness**

0.11 mm

**Protective index**

Splash contact

**Manufacturer**

KCL 741 L

**Remarks**

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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D- 36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

**Hygiene measures**

Change contaminated clothing. Wash hands after working with substance.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

solid

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**Color**

White to Orange to Green

**Odor**

No data available

**Odor Threshold**

No data available

**pH**

No data available

**Melting point/ range**

129 - 133 °C

Method: lit.

**Boiling point/boiling range**

372.1±17.0 °C(Predicted)

**Flash point**

No data available

**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**

1.359±0.06 g/cm<sup>3</sup>(Predicted)

**Density**

1.359±0.06 g/cm<sup>3</sup>(Predicted)

**Water solubility**

No data available

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

log Pow: 4.397

**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**

275.14 g/mol

### **Particle characteristics Particle size**

No data available

### **Solubility**

soluble in Toluene

### **Physical state**

powder to crystal

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## SECTION 10: Stability and reactivity

### **Reactivity**

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### **Chemical stability**

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

### **Possibility of hazardous reactions**

No data available

### **Conditions to avoid**

no information available

### **Incompatible materials**

Strong oxidizing agents

### **Hazardous decomposition products**

## 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

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

#### 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

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

#### 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

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

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## SECTION 12: Ecological information

### Ecotoxicity

#### Components:

#### 1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one:

#### Toxicity to fish

LC50 : 2.0 mg/l Exposure time: 96.0 h Remarks: No data available

#### Persistence and degradability

**Components:****1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one:****Biodegradability**

Remarks: No data available

**Bioaccumulative potential****Components:****1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one:****Bioaccumulation**

Remarks: No data available

**Partition coefficient: noctanol/water**

log Pow: 4.397

**Mobility in soil****Components:****1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one:****Stability in soil**

Remarks: No data available

**Other adverse effects**

No data available

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**SECTION 13: Disposal considerations****Disposal methods****Waste from residues**

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

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**SECTION 14: Transport information****International Regulations****IATA-DGR**

UN/ID No. : UN 3077

Proper shipping name : Environmentally hazardous substance, solid, n.o.s.

(1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one)

Class : 9

Packing group : III

Labels : Class 9 - Miscellaneous dangerous substances and articles

Packing instruction (cargo aircraft) : 956

Packing instruction (passenger aircraft) : 956

### **IMDG-Code**

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one)

Class : 9

Packing group : III

Labels : 9

EmS Code : F-A, S-F

Marine pollutant : yes

### **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 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(1-(4'-Bromo[1,1'-biphenyl]-4-yl)ethan-1-one)

Class : 9

Packing group : III

Labels : 9

Environmentally hazardous : no

### **Special precautions for user**

Remarks : EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous

Goods > 5L for liquids or > 5kg for solids.

Packages smaller than or equal to 5 kg / L , not dangerous goods of Class 9

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.

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## **SECTION 15: Regulatory information**

Catalogue of Hazardous Chemicals : This product is not listed in the catalogue of hazardous chemicals, but it meets the definition of hazardous chemicals and its principles of determination.

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

## **National regulatory information**

### **Regulations on Safety Management of Hazardous Chemicals**

#### **Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)**

Not listed

### **Hazardous Chemicals for Priority Management**

Not listed under SAWS

### **Regulations on Labour Protection in Workplaces where Toxic Substances are Used**

### **Catalogue of Highly Toxic Chemicals**

Not listed

### **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**

Not listed

### **Measures on the Environmental Administration of New Chemical Substances Registration**

### **Registration/Notification number**

B1A222232797

### **Regulation on the Administration of Precursor Chemicals**

### **Catalogue and Classification of Precursor Chemicals**

Not listed

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## **SECTION 16: Other information**

### **Full text of other abbreviations**

AIIIC - 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)

ErCx - 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

IC50 - 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

**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.