

## Chemical Safety Data Sheet MSDS / SDS

## Clarithromycin

Revision Date:2026-05-30 Revision Number:1

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

**Product identifier**

Product name : Clarithromycin  
CBnumber : CB2225614  
CAS : 81103-11-9  
EINECS Number : 1806241-263-5  
Synonyms : Clarithromycin, CLARITHROMYCIN POWDER

**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**

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.

P501 Dispose of contents/container to.....

**Hazard statements**

H302 Harmful if swallowed

## SECTION 3: Composition/information on ingredients

**Substance**

Product name	: Clarithromycin
Synonyms	: Clarithromycin, CLARITHROMYCIN POWDER
CAS	: 81103-11-9
EC number	: 1806241-263-5
MF	: C <sub>38</sub> H <sub>69</sub> NO <sub>13</sub>
MW	: 747.95

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## SECTION 4: First aid measures

### 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

### Specific hazards during fire fighting

Combustible.

### Hazardous combustion products

Carbon oxides Nitrogen oxides (NO<sub>x</sub>) Sulphur oxides

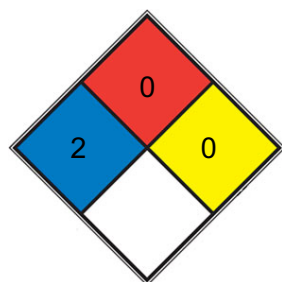
### Specific extinguishing methods

No data available

### Special protective equipment for fire-fighters

No data available

### NFPA 704



■ HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

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Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete,  
Chemical Book

FIRE 0 stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

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REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

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SPEC.

HAZ.

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## SECTION 6: Accidental release measures

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## SECTION 7: Handling and storage

### Handling

#### Avoidance of contact

Acid chlorides Strong acids Strong oxidizing agents Strong reducing agents

### Storage

#### Storage class

10, Combustible liquids

#### Recommended storage temperature

-20 °C

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## SECTION 8: Exposure controls/personal protection

### control parameter

#### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

### Engineering measures

No data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

liquid

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#### Color

colorless to faint yellow

#### Odor

No data available

**Odor Threshold**

No data available

**pH**

No data available

**Melting point/ range**

No data available

**Boiling point/boiling range**

86 °C

**Flash point**

87 °C

**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**

1.1334 (rough estimate)

**Density**

1.1334 (rough estimate)

**Water solubility**

99.48mg/L(20 °C)

**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

**Particle characteristics Particle size**

No data available

**Solubility**

Soluble in DMSO

**Physical state**

powder

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## SECTION 10: Stability and reactivity

**Reactivity**

No data available

**Chemical stability**

No data available

**Possibility of hazardous reactions**

No data available

## Conditions to avoid

No data available

## Incompatible materials

Acid chlorides Strong acids Strong oxidizing agents Strong reducing agents

## 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

### Mixture Acute toxicity

Acute toxicity estimate Oral - > 5,000 mg/kg (Calculation method)

Inhalation: No data available

Dermal: No data available

### Skin corrosion/irritation

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

### Serious eye damage/eye irritation

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

### 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

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

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

### Components dimethyl sulphoxide

#### Acute toxicity

LD50 Oral - Rat - male and female - 28,300 mg/kg (OECD Test Guideline 401)

LC0 Inhalation - Rat - male and female - 4 h - > 5.33 mg/l - dust/mist (OECD Test Guideline 403)

LD50 Dermal - Rat - male and female - 40,000 mg/kg

Remarks: (ECHA)

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: slight irritation - 4 h (OECD Test Guideline 404)

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

Eyes - Rabbit

Result: slight irritation - 24 h (OECD Test Guideline 405)

#### **Respiratory or skin sensitization**

Maximisation Test - Guinea pig

Result: negative (OECD Test Guideline 406)

Local lymph node assay (LLNA) - Mouse

Result: negative (OECD Test Guideline 429)

#### **Germ cell mutagenicity**

Test Type: Ames test

Test system: Salmonella typhimurium

Result: negative

Test Type: sister chromatid exchange assay

Test system: Chinese hamster ovary cells

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Result: negative

Method: OECD Test Guideline 474

Species: Rat - male and female

Result: negative

#### **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 Aspiration hazard**

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

#### **Clarithromycin Acute toxicity**

LD50 Oral - Rat - 1,270 mg/kg

Remarks: Behavioral:Change in motor activity (specific assay).

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

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## SECTION 12: Ecological information

**Ecotoxicity****Components:****dimethyl sulphoxide:****Toxicity to fish**

LC50 (Danio rerio (zebra fish)): > 25,000 mg/l End point: mortality Exposure time: 96 h Test Type: static test Analytical monitoring: yes  
Method: OECD Test Guideline 203 GLP: yes

**Toxicity to daphnia and other aquatic invertebrates**

EC50 (Daphnia magna (Water flea)): 24,600 mg/l Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test  
Guideline 202

**Toxicity to algae/aquatic plants**

ErC50 (Pseudokirchneriella subcapitata (green algae)): 17,000 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes  
Method: OECD Test Guideline 201 GLP: yes

**Toxicity to microorganisms**

EC50 (activated sludge): 10 - 100 mg/l Exposure time: 30 min Method: ISO 8192

**Clarithromycin:****Toxicity to fish**

LC50 (Oryzias latipes): > 100 mg/l Exposure time: 96 hrs Remarks: No data available

**Toxicity to algae/aquatic plants**

ErC50 (Pseudokirchneriella subcapitata (algae)): 0.0069 mg/l Exposure time: 72 hrs

**M-Factor (Acute aquatic toxicity)**

100

**M-Factor (Chronic aquatic toxicity)**

100

## Persistence and degradability

### Components:

#### dimethyl sulphoxide:

##### Biodegradability

aerobic Concentration: 2 mg/l Result: Not readily biodegradable. Biodegradation: 31 % Exposure time: 28 d Method: OECD Test Guideline 301D GLP: yes

##### Stability in water

Degradation half life: 0.12 - 1.2 h (30 °C) pH: 7 Remarks: Hydrolyses readily.

### Clarithromycin:

##### Biodegradability

Remarks: No data available

### Bioaccumulative potential

### Components:

#### dimethyl sulphoxide:

##### Partition coefficient: noctanol/water

log Pow: -1.35 (20 °C) Remarks: Bioaccumulation is not expected.

### Clarithromycin:

##### Bioaccumulation

Remarks: No data available

### Mobility in soil

### Components:

### Clarithromycin:

##### Stability in soil

Remarks: No data available

### Other adverse effects

### Components:

### Clarithromycin:

##### Additional ecological information

No data available

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## SECTION 13: Disposal considerations

## Disposal methods

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# SECTION 14: Transport information

## International Regulations

### IATA-DGR

Not regulated as a dangerous good

UN/ID No. : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

Packing instruction (cargo aircraft) : Not applicable

Packing instruction (passenger aircraft) : Not applicable

### IMDG-Code

Not regulated as a dangerous good

UN number : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

EmS Code : Not applicable

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 : Not applicable

Proper shipping name : Not applicable

Class : Not applicable

Subsidiary risk : Not applicable

Packing group : Not applicable

Labels : Not applicable

Environmentally hazardous : no

## Special precautions for user

Not applicable

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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**

#### **Law on the Prevention and Control of Occupational Diseases**

#### **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

#### **Catalogue of Specially Controlled Hazardous**

Not listed Chemicals

#### **List of Explosive Precursors**

Not listed

#### **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**

B1A222224933

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

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

Not listed

## Regulations on the Administration of Controlled Chemicals

### List of Controlled Chemicals

Not listed

## Regulations of Ozone Depleting Substances Management

### List of Controlled Ozone Depleting Substances

Not listed

### List of Controlled Ozone Depleting Substances Import and Export

Not listed

## Environmental Protection Law

### List of Priority Controlled Chemicals

Not listed

### List of Key Controlled New Pollutants

Not listed

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## SECTION 16: Other information

### Full text of other abbreviations

#### GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

**GBZ 2.1-2007 / PC-TWA AIC** - Australian Invent Transport by Land of Bra bw - Body weight; **CMR** Standard of the German List (Canada); **ECx** - Conc associated with x%respo Chemical Substances (Jap response; **ERG** - Emerge **GLP** - Good Laboratory P cer; **IATA** - International Construction and Equipm Half maximal inhibitory c tion; **IECSC** - Inventory o tional Maritime Dangerou Industrial Safety and H Standardisation; **KECI** - K tration to 50 % of a test (Median Lethal Dose); **MA** lution from Ships; **MERC** of Dangerous Goods; **n.o.** - No Observed (Adverse) fect Level; **NOELR** - No Norm; **NTP** - National Toxi icals; **OECD** - Organisatio fice of Chemical Safety a and Toxic substance; **PIC** stances; **(Q)SAR** - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemicala States); **UN** - United Nat Transport of Dangerous

#### WHMIS - Workplace Hazar

Permissible concentration - time weighted average ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonised System

actice

IARC - International Agency for Research on Canir Transport Association

IBC - International Code for the nt of Ships carrying Dangerous Chemicals in Bulk

IC50 ncentration

ICAO - International Civil Aviation Organiza- Existing Chemical Substances in China

IMDG - Interna- Goods

IMO - International Maritime Organisation

ISHL alth Law (Japan)

ISO - International Organisation for rea Existing Chemicals Inventory

LC50 - Lethal Concenopulation

LD50 - Lethal Dose to 50% of a test population POL - International Convention for the Prevention of Pol- SUR - The Agreement for the Facilitation of the Transport . - Not Otherwise Specified

Nch - Chilean Norm

NO(A)EC ffect Concentration

NO(A)EL - No Observed (Adverse) Efbserveable Effect Loading Rate

NOM - Official Mexican ology Program

NZIoC - New Zealand Inventory of Chemfor Economic Co-operation and Development

OPPTS - Ofd Pollution Prevention

PBT - Persistent, Bioaccumulative S - Philippines Inventory of Chemicals and Chemical Subtative) Structure Activity Relationship

REACH - Regulation European Parliament and of the Council concerning the uthorisation and Restriction of Chemicals

SADT - Selfn Temperature

SDS - Safety Data Sheet

TCSI - Taiwan tory

TDG - Transportation of Dangerous Goods

TECI s Inventory

TSCA - Toxic Substances Control Act (United ons

UNRTDG - United Nations Recommendations on the oods

vPvB - Very Persistent and Very Bioaccumulative

ous 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.