

According to Regulation (EC) No 1907/2006

# Tigecycline

Version number: 2  
Issued: 2023-10-13



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

### 1.1. Product identifier

**Trade name**

Tigecycline

**CAS number**

220620-09-7

**EC number**

685-736-6

**Synonyms**

4S,4aS,5aR,12aS)-9- [2-(tert-butylamino)acetamido] -4,7-bis (dimethylamino) -1,4,4a,5,5a,6,11,12a-octahydro-3,10,12, 2a-tetrahydroxy-1, 11-dioxo-2-naphthacenecarboxamide (hydrochloride)

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses**

Research and development.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

Molekula Group

Street address

Molekula Ltd, Lingfield Way, Darlington,  
DL1 4XX Darlington  
United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

**Contact person**

Kevin Banks

**Email address**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Serious eye damage, hazard category 1  
Hazardous to the aquatic environment — Chronic hazard category 2  
Skin sensitisation, hazard category 1  
Reproductive toxicity, hazard category 1B

#### Hazard statements

H317, H318, H360, H411

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Danger

#### Hazard statements

H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H360 May damage fertility or the unborn child.  
H411 Toxic to aquatic life with long lasting effects.

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## Precautionary statements

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/fumes/gas/mist/vapours/spray.  
P262 Do not get in eyes, on skin, or on clothing.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of water/.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/attention.  
P310 Immediately call a POISON CENTER/doctor.  
P314 Get medical advice/attention if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P391 Collect spillage.  
P403 Store in a well-ventilated place.  
P405 Store locked up.  
P501 Dispose of contents/container to local regulations.

## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrases M factor acute M factor chronic	Note
Tigecycline	220620-09-7 685-736-6 - -	100%	Skin Sens. 1, Eye Dam. 1, Repr. 1B, Aquatic Chronic 2	H317, H318, H360, H411 - -	-

## Molecular weight

585.65

## Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

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## SECTION 4: First aid measures

### 4.1. Description of first aid measures

IF exposed or concerned: Get medical advice/attention. First aiders/ medical personnel need to protect themselves. Show this Safety Data Sheet (SDS) to medical personnel.

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing stops, provide artificial respiration. For breathing difficulties oxygen may be necessary.

#### Skin contact

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Immediately call a POISON CENTER/doctor.

#### Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

#### Ingestion

IF SWALLOWED: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only if the persons are fully conscious and awake). Administer activated charcoal (20 - 40g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.

#### Information for doctors

No data available.

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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. Causes burns by all exposure routes.

See section 11 for more detailed information on health effects and symptoms.

#### Inhalation

Single exposure may cause the following adverse effects: Causes severe burns. Difficulty in breathing.

#### Skin contact

Single exposure may cause the following adverse effects: Causes severe burns. Blistering may occur. May be absorbed in the body and cause dizziness, nausea and vomiting.

#### Eye contact

Single exposure may cause the following adverse effects: Causes serious eye damage.

#### Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. May cause severe internal injury.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Immediately call a POISON CENTER/doctor.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

No specific fire fighting procedure given.

### 5.2. Special hazards arising from the substance or mixture

Specific hazards: Corrosive.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

Nitrous gases (NO<sub>x</sub>).

Combustible.

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

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Prevent skin contact by maintaining a safe distance and by wearing suitable protective equipment/ clothing. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Avoid contact with skin and eyes. For personal protection, see section 8.

In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

### 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

### 6.3. Methods and material for containment and cleaning up

Collect with absorbent, non-combustible material into suitable containers.

### 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

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## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

For precautions see section 2.2. Wear protective clothing, gloves, eye and face protection. Work under hood. Do not breathe dust/fume/gas/mist/vapours/spray. Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. May damage fertility. May damage the unborn child. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

#### General hygiene

Observe good chemical hygiene practices. IF ON SKIN: Wash skin thoroughly with soap and water for several minutes. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use.

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

Store in a dry place. Store in a closed container. Recommended storage temperature: -20 to -15°C (-4 to 5°F)  
Hygroscopic.

### 7.3. Specific end use(s)

No specific usage precautions noted.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No data available

### 8.2. Exposure controls

#### Personal Protective Equipment Symbols



#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

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## **Other skin protection**

Wash skin thoroughly after handling.

## **Respiratory protection**

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

## **Environmental exposure controls**

Avoid discharge into drains.

## SECTION 9: Physical and chemical properties

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

#### **Physical state**

Solid

#### **Colour**

Orange.

#### **Odour**

Odourless.

#### **Melting point / freezing point**

180 - 185 °C

#### **Boiling point or initial boiling point and boiling range**

No data available

#### **Flammability**

No data available

#### **Lower and upper explosion limit**

No data available

#### **Flash point**

No data available

#### **Auto-ignition temperature**

No data available

#### **Decomposition temperature**

No data available

#### **pH**

7 - 8.5

#### **Kinematic viscosity**

No data available

#### **Solubility**

soluble

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## Partition coefficient n-octanol/water

No data available

## Vapour pressure

No data available

## Density and/or relative density

No data available

## Relative vapour density

No data available

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The following applies in general to flammable organic substances and mixtures: when finely distributed, the risk of a dust explosion may be assumed.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

Violent reactions possible with:  
Strong oxidising agents.

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Strong oxidising agents.

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
Tigecycline	Severe irritation.	Rabbit



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Product / Substance name CAS / EC no.	Result	Species
220620-09-7 / 685-736-6		

## Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline	Other
Tigecycline 220620-09-7 / 685-736-6	Positive.	Mouse	Local Lymph Node Assay	May cause an allergic skin reaction.

## Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
Tigecycline 220620-09-7 / 685-736-6	Negative.	Chinese Hamster cells: Ovary	Mutagenicity (mammal cell test): Chromosome aberration:
Tigecycline 220620-09-7 / 685-736-6	Negative.	Mouse lymphoma test	In vitro mammalian cell gene mutation test.
Tigecycline 220620-09-7 / 685-736-6	Negative.	Mouse	in vivo Micronucleus test

## Reproductive toxicity

Product / Substance name CAS / EC no.	Result
Tigecycline 220620-09-7 / 685-736-6	May damage fertility. May damage the unborn child.

## Aspiration hazard

Based on available data, the classification criteria are not met.

### 11.2. Information on other hazards

#### Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Acute fish toxicity

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Tigecycline 220620-09-7 / 685-736-6	LC50	0.26 mg/l	72 hours	Pimephales promelas (Fat-head Minnow)

### Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Tigecycline 220620-09-7 / 685-736-6	ErC50	1.65 mg/l	72 hours	Algae

### Acute crustacean toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Tigecycline 220620-09-7 / 685-736-6	EC50	2 mg/l	48 hours	Daphnia magna

### Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Tigecycline 220620-09-7 / 685-736-6	NOEC	2.1 mg/l	21 days	Daphnia magna
Tigecycline 220620-09-7 / 685-736-6	NOEC	22 µg/l	32 days	Pimephales promelas (Fat-head Minnow)

## 12.2. Persistence and degradability

### Persistence and degradability

Product / Substance name CAS / EC no.	Result
Tigecycline	The product is not readily biodegradable.

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Product / Substance name CAS / EC no.	Result
220620-09-7 / 685-736-6	

## 12.3. Bioaccumulative potential

No data available

## 12.4. Mobility in soil

No data available

## 12.5. Results of PBT and vPvB assessment

No data available

## 12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

## 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

## SECTION 14: Transport information

### 14.1. UN number

3077

### 14.2. UN proper shipping name

#### ADR / RID / ADN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tigecycline)

#### IMDG proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tigecycline)

#### IATA proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Tigecycline)

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## 14.3. Transport hazard class(es)

### Label

ADR/RID/ADN



9 Environmental hazard

IMDG



9

IATA



9 Environmental hazard

### ADR / RID Class

9

### ADR / RID Classification code

M7

### ADR / RID hazard identification number

90

### IMDG Class

9

### IATA Class

9

### ADN Class

9

### ADN Class Code

M7

## 14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

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## 14.5. Environmental hazards

ADR/RID/ADN: Hazardous for the environment

### IMDG EmS

F-A, S-F

## 14.6. Special precautions for user

Tunnel restriction code: -

Transport category: 3

## 14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

## SECTION 15: Regulatory information

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

#### EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### National regulations

Directive: 2012/18/EU: ENVIRONMENTAL HAZARDS

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

### Phrase meaning

Eye Dam. 1 - Serious eye damage, hazard category 1

Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2

Skin Sens. 1 - Skin sensitisation, hazard category 1

Repr. 1B - Reproductive toxicity, hazard category 1B

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H360 May damage fertility or the unborn child.

H411 Toxic to aquatic life with long lasting effects.