# Specification

**Doxycycline hyclate BioChemica**

### Synonym

Doxycycline Hydrochloride Hemithanolate Hemihydrate

### State of matter

Solid

### Formula

\[
\text{C}_{22}\text{H}_{25}\text{ClN}_{2}\text{O}_{8} \cdot 0.5\text{H}_{2}\text{O} \cdot 0.5\text{C}_{2}\text{H}_{6}\text{O}
\]

### M

512.94 g/mol

### CAS-No.: 24390-14-5

### HS-No.: 29413000

### EC-No.: 234-198-7

### Storage:

2-8°C
protected from light

### LGK:

10 - 13

### Hazard pictogram(s)

![Hazard pictogram](image)

### Hazard statement(s)

H302+H332-H315-H319-H361-H362-H335

### Precautionary statement(s)

P260-P263-P280-P281-P321

### Signal word

Warning

### WGK:

1

### Specification

<table>
<thead>
<tr>
<th>Assay (HPLC, calc. on H&lt;sub&gt;2&lt;/sub&gt;O and EtOH free subst.)</th>
<th>min. 95 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solubility (1 %; H&lt;sub&gt;2&lt;/sub&gt;O)</td>
<td>clear, yellow-green</td>
</tr>
<tr>
<td>Ethanol</td>
<td>max. 7 %</td>
</tr>
<tr>
<td>Water</td>
<td>max. 5 %</td>
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</tbody>
</table>

### Literature

Comment

Doxycycline is a member of the Tetracycline family of antibiotics and is active against grampositive and gramnegative germs. Accordingly, it shows the same mechanism of action, i.e. an inhibition of the protein synthesis at the ribosomes. In the TET expression system, Doxycycline may replace Tetracycline. The working concentration for the inactivation of tTA in double-stable cell lines is 1 - 20 ng/ml in the culture medium (acc. to ref. 1).

Solubility and stability: The crystalline substance of Doxycycline is stable. The hyclate salt of Doxycycline is watersoluble. Stability of Doxycycline in aqueous solutions depends on the pH value: an acidic pH value increases stability (more than 30 days at ambient temperature without loss of activity at pH 1 - 2,5). At pH 7 and ambient temperature, it is stable for more than 1 week. Doxycycline forms complexes with calcium ions, which leads to an inactivation of the antibiotic. Avoid high calcium concentrations in your assay.