

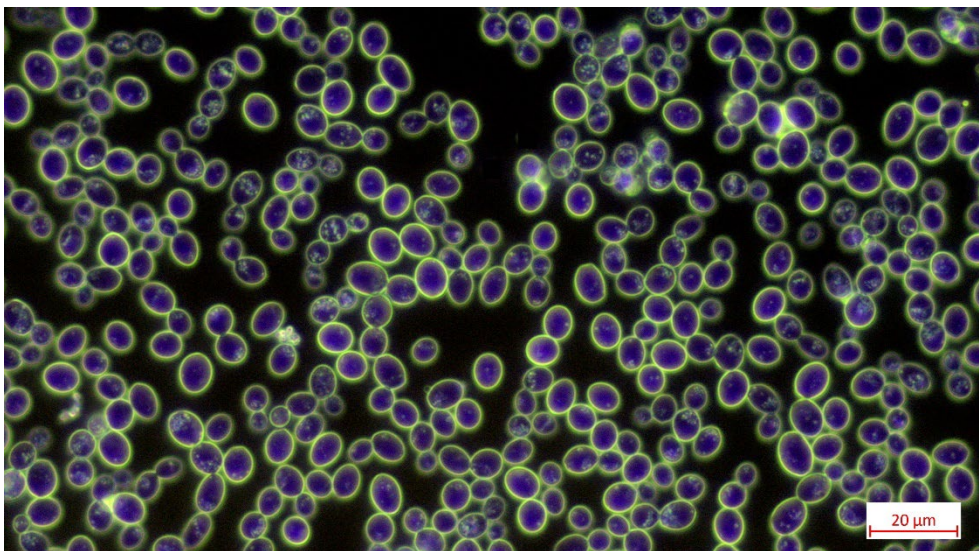
## Securitas - TUM 193®

*Saccharomyces pastorianus ssp. carlsbergensis*  
bottom fermenting brewing yeast

### Description

This bottom fermenting flocculent yeast is characterized by a rapid primary fermentation and a flawless flavor profile. Its SO<sub>2</sub> formation is above average, lending the finished beer greater flavour stability.

Examination parameters	Result
Original extract (%)	11.6
Apparent degree of attenuation (%)	80
Cells in suspension (Mio/ml)	20
pH value	4.65
Diacetyl (mg/l)	0.1
Acetaldehyde (mg/l)	6
Higher aliphatic alcohols (mg/l)	93
Esters (mg/l)	13.5
Foam according to Ross & Clark (sec)	134
<b>Short characteristics</b>	
Fermentation rate	high
pH drop	normal
Flocculation	optimal
Diacetyl reduction	normal
Foam	very good
Acetaldehyde	normal
Higher alcohols	relatively high
Esters	normal



Microscopic view of yeast strain Securitas - TUM 193®  
(Picture Securitas - TUM 193® © FZW BLQ)

### References:

- Geiger E.; Tenge C.: Lecture "Microbiological analysis and Quality Monitoring" (date: summer semester 2007)  
 Geiger E.; Tenge C.: Lecture "Fermentation Technology" (date: winter semester 2007/2008)  
 Geiger E.; Tenge C.: Laboratory Protocol "Fermentation Technology / Organoleptic" (date: summer semester 2007)  
 Forschungszentrum Weihenstephan für Brau- und Lebensmittelqualität der TU München