Product Information

QSense® QSX 346 Cellulose

The QSense Cellulose sensor has an evenly distributed coating of microfibrillated cellulose, also referred to as nanofibrillar cellulose.

Sensor specifications	
Description	Cellulose sensor
Top coating material	Microfibrillated cellulose, also referred to as nanofibrillar cellulose in literature[A].
Sensor surface base	SiO_2
Fibril diameter	20-50 nm
Fibril length	Up to several µm
Maximum temperature[B]	70 °C
Usage	The cellulose sensor should be used immediately after opening the inert package without pre-cleaning. The cellulose coating absorbs water. If required the sensor can be cleaned by flowing nitrogen gas over the surface to remove solid particles. QSense sensors are intended for one-time use only.
Storage	The sensor is delivered in inert atmosphere. Store in a cool, dry place out of light.
Shelf life	Stable at least 8 months from package date in unopened package, see expiry date on package.
Chemical compatibility	Stable in water and mild buffers between pH 5,0 - 8,0. Not stable in SDS, methanol, ethanol, chloroform, low pH or high temperature. There is no guarantee that the coating will be stable under all experimental conditions.
Additional information	Please note that cellulose is a natural material, and minor variations between batches with respect to structure and composition may occur. If the sensors are monitored in water, there will be some initial swelling of the cellulose, which will level out. The cellulose sensor will undergo enzymatic hydrolysis upon treatment with cellulase.

Note:
The QSense sensors are developed and produced to provide you with stable, reliable and reproducible data. Full performance is ensured through extensive quality controls and guaranteed for one-time use according to the recommendations.

Specifications may be subject to change without notice.

A - Pääkkö et al. (2007) Biomacromolecules, 8, 1934-1941

B - Melting point of the adhesion layer is 73-75 °C. Theoretically, the quartz and the Au coating withstand temperatures up to 573 °C where the quartz undergoes a phase transition altering its piezoelectric properties. The adhesion layers, the electrode and coating materials will migrate with time, and the migration rate is affected by temperature and time.

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Biolin Scientific AB
Hängpilsgatan 7, SE-426 77 Västra Frölunda
Phone: +46 31 769 7690 | E-mail: info@biolinscientific.com
www.biolinscientific.com

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