



QSense Sensors for Assessment of Biopharmaceutical Stability and Material Compatibility

The new QSense® sensor package for Biopharma mimics the surface properties of materials used in the biopharmaceutical industry, such as plastic packaging, glass containers, pre-filled syringes, and IV bags. These sensors enable drug-surface interaction analysis, allowing early assessment of material compatibility and stability during drug formulation. Additionally, they also support the study of antibody/excipient interactions with surfaces used in production, storage, and administration of biopharmaceutical products.



Suggested Sensors

- SS2343 Stainless steel (similar to US S 316)
- Borosilicate glass
- PDMS (Silicone oil)
- PTFE (Amorphous polymer)

QSense QCM-D in Biopharma

The QSense QCM-D method enables evaluation of surface adsorption and desorption processes, as well as changes in the structure of adsorbed layers, that may occur throughout the lifecycle of the pharmaceutical drug.

What can you measure?

- How much antibody adsorbs to different surface materials?
- How are the molecules arranged at the surface?
- What surfaces may cause incompatibility issues?
- How does an excipient impact antibody adsorption?
- How do changes in concentration, pH, temperature, surface material, or surfactant type affect the adsorbed amount?

Sensor Name	Material	Delivery Time	Application
QSX 304 - SS2343	Stainless Steel (SS2343)	1-2 weeks	Surgical instruments, Medical implants, Sterilization trays and containers
QSX 336 - BS	Borosilicate Glass	1-2 weeks	Container glasses
QSX 305 - PS	Polystyrene	4-6 weeks	Petri dishes, Disposable labwares, Microspheres, Containers
QSX 331 - AF	Amorphous Fluoropolymer	4-6 weeks	Medical tubing, Liners, Bio-coating
QSX 348 - PDMS	Polydimethyl Siloxane	6 weeks	Pre-filled syringes, Gaskets, Protective coatings
QSX 900 - PVDF*	Polyvinylidene fluoride	6-8 weeks	Seals and Leaners, Catheters and Tubings, Surgical sutures
QSX 900 - PMMA*	Polymethyl Methacrylate	6-8 weeks	Blister packs, Syringes and Vials
QSX 999 - HDPE/LDPE/LLDPE*	Polyethylene (high density, low density, linear low density)	6-8 weeks	Medical packaging, IV bags, Containers
QSX 999 - PP*	Polypropylene	6-8 weeks	Medical packaging, IV bags, Syringes
QSX 999 - PVC*	Polyvinyl Chloride	6-8 weeks	Medical tubing, IV bags, Surgical gloves
QSX 999 - PES*	Polyethersulfone	6-8 weeks	Vials, Blister packaging
QSX 999 - PU*	Polyurethane	6-8 weeks	Catheters, Medical adhesives
QSX 999 - PC*	Polycarbonate	6-8 weeks	IV bags, Surgical instruments, Blood oxygenators
QSX 999 - PMP*	Polymethylpentene	6-8 weeks	Sterilization trays, Medical packaging
QSX 999 - EVA*	Ethylene-Vinyl Acetate	6-8 weeks	IV bags, Medical packaging
QSX 999 - COP*	Cyclo Olefin Polymer	6-8 weeks	Syringes, IV bags, Microfluidic devices
QSX 999 - COC*	Cyclo Olefin Copolymer	6-8 weeks	Medical packaging, Labware

**Custom sensors have been previously produced based on a specific customer request. Due to the novelty of the production protocol batch-to-batch validation including shelf life testing has not been performed. Data on roughness and thickness for the specific batch can be provided at delivery at an additional cost.*



Find the suitable sensor

Our website will help you choose the best sensor to suit your research needs.