

## COMMODITY CHARACTERISTICS OF PREFILLED SYRINGES

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Experts in the field of medicine and public health in the whole world realize valuable advantages of prefilled syringes which occupy 25 % of total market of systems for injection administration of medicinal products and thus shows the highest rates of their growth. Prefilled syringes (PFS) are used more and more often as initial containers for most of high-quality injection medicinal products due to their advantages comparatively with traditional package types. Anticoagulants, antiviral, antianaphylactic agents, preparations used to treat disorders of hemopoiesis, monoclonal antibodies and also vaccines are attributed to therapeutic groups used most often in prefilled syringes.

Depending on material of which prefilled syringes are made they can be glass or plastic. In scales of the global market part of glass ones takes 95 % expressed in money units and a little bit greater – in natural expression.

Glass always was preferable material for manufacturing of all kinds of syringes. However, in these syringes a drug contacts with various kinds of materials: glass, needle, needle glue, protective needle cap, piston. To solve this problem many manufacturers have developed high-grade glass syringes syriQ InJentle in which a preparation contacts only with glass and rubber as well as during storage in vials.

Plastic prefilled syringes are on stage of elaboration. Constant development of manufacturing technologies of polymers has resulted in creation of plastics with better parameters of lixiviation and extractability in comparison with glass products.

Only three components of polymeric prefilled syringe SECUREJECT are in direct contact with a product (a drug / vaccine / liquid): body and head of a syringe (made of medicinal inert polymer), piston (preliminary sterilized, made of compatible material) and preliminary sterilized needle of stainless steel AISI 316L. Both parts of a syringe (needle from below and rod) are tightly closed with plastic capsules during molding process. This protects a syringe from contamination and casual pressing.

Prefilled syringes SECUREJECT are very convenient in use for daily injections of drugs carried out by nurses and doctors, and also for providing injections of solutions of lyophilized powders, because after dissolution of a preparation it can be soaked back into a syringe and it's possible to make an injection with the same needle (without additional syringe). Being ready to use and requiring only removing of a cap, they can become very convenient during large-scale safe vaccination.