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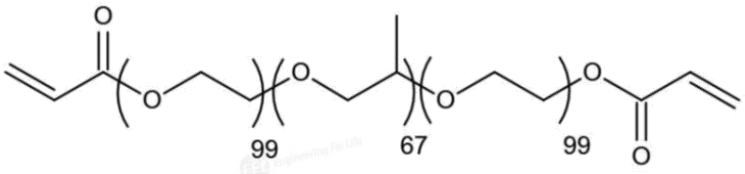
20250509

Polyether F127 Diacrylate（F127DA）

Product Component

Item	Character	Package Size	Notes
A：F127DA	White powder	1g/bottle or 5g/bottle	Keep in the dark
B：Photoinitiator LAP	White powder	0.05g/bottle (1 or 5 bottles per pack)	

This instruction applies to EFL–F127DA



F127DA molecular structure

Product Introduction

Polyether F127 diacrylate (F127DA) is a double–bonded modified polyethylene glycol–poly (propylene glycol) –polyethylene glycol triblock copolymer, which can be cross–linked rapidly under ultraviolet and visible light in the presence of a photoinitiator. F127 has thermoresponsive properties and biosafety. The material matrix based on F127 can be applied in biomedical fields: drug carrier, wound dressing, cell carrier shear protector, biological 3D printing, etc.

Applications

High strength hydrogel, Drug carrier, Biological 3D printing, Tissue engineering, etc.

Storage

Dry kit：room temperature, 3 months; 4℃, 12 months; −20℃, 18 months. **Sterile solution**：4°C (in the dark), 7 days；−20℃ (in the dark),6 months. **Please note that repeated freezing and thawing of the solution will affect the performance of the product, so it is best to prepare it when using it.**

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Period of validity

The date of manufacture is shown in the package.

Solution preparation

1. Prepare 0.25% (w/v) standard solution of initiator

(1) Add 20mL PBS into the brown bottle containing initiator LAP (containing 0.05g LAP);

(2) Heat and dissolve the solution in a water bath at 40–50℃ for 15 minutes, shaking several times.

(3) The LAP standard solution can be stored for 12 months at 4°C in the dark.

2. Prepare F127DA solution (5–30% (w/v) is recommended)

(1) Take the required mass of F127DA into the centrifugal tube;

(2) Add the initiator standard solution into the centrifuge tube;

(3) Dissolve at 2–8℃ for 30 minutes, shaking several times during the period (the concentration below 20% (w/v) can be dissolved by stirring at room temperature).

Solidification

The F127DA solution containing initiator can be solidified into a gel after 10–30 seconds of irradiation with a 405nm light source. In order to obtain higher strength hydrogels, the illumination time can be extended as appropriate.

Notes：

F127DA has thermoresponsive gel properties and is a thermoresponsive gel. During the preparation of solution, reducing the temperature is beneficial to the process. It is recommended to be left to dissolve at 2–8℃, during which the vortex mixer is used to shake several times.

F127DA solution with a concentration greater than 20% will gelatinize when standing at room temperature. The higher the concentration, the easier it will gelatinize. In this case, the gel is physically reversible and will return to the solution state when the temperature drops to 2–8℃.

Tips: Do not look directly at the light source.