

**ANNEX I**

**SUMMARY OF PRODUCT CHARACTERISTICS**

## **1. NAME OF THE MEDICINAL PRODUCT**

VeraSeal solutions for sealant

## **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Component 1:

Human fibrinogen        80 mg/ml

Component 2:

Human thrombin        500 IU/ml

Produced from the plasma of human donors.

For the full list of excipients, see section 6.1.

## **3. PHARMACEUTICAL FORM**

Solutions for sealant.

Frozen solutions. After thawing, the solutions are clear or slightly opalescent and colourless or pale yellow.

## **4. CLINICAL PARTICULARS**

### **4.1 Therapeutic indications**

Supportive treatment in adults where standard surgical techniques are insufficient:

- for improvement of haemostasis.
- as suture support: in vascular surgery.

### **4.2 Posology and method of administration**

The use of VeraSeal is restricted to experienced surgeons who have been trained in the use of this medicinal product.

#### Posology

The volume of VeraSeal to be applied and the frequency of application should always be oriented towards the underlying clinical needs for the patient.

The dose to be applied is governed by variables including, but not limited to, the type of surgical intervention, the size of the area and the mode of intended application, and the number of applications.

Application of the product must be individualised by the treating physician. In clinical trials, the individual doses have typically ranged from 0.3 to 12 ml. For other procedures, larger volumes may be required.

The initial volume of the product to be applied at a chosen anatomic site or target surface area should be sufficient to entirely cover the intended application area. The application can be repeated, if necessary.

#### *Paediatric population*

The safety and efficacy of VeraSeal in children aged 0 to 18 years has not yet been established. Currently available data are described in section 5.1, but no recommendation on a posology can be made.

#### Method of administration

For epilesional use.

For instructions on preparation of the medicinal product before administration, see section 6.6. The product should only be administered according to the instructions and with the devices recommended for this product (see section 6.6.).

Prior to applying VeraSeal, the surface area of the wound needs to be dried by standard techniques (e.g. intermittent application of compresses, swabs, use of suction devices).

For spray application, see sections 4.4 and 6.6 for specific recommendations on the required distance from tissue per surgical procedure.

### **4.3 Contraindications**

VeraSeal must not be applied intravascularly.

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

VeraSeal must not be used for the treatment of severe or brisk arterial bleeding.

### **4.4 Special warnings and precautions for use**

#### Traceability

In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded.

#### Precautions for use

For epilesional use only. Do not apply intravascularly.

Life threatening thromboembolic complications may occur if the preparation is unintentionally applied intravascularly (see section 4.8).

VeraSeal spray application should only be used if it is possible to accurately judge the spray distance, especially during laparoscopy. Spray distance from tissue should be within the range recommended by the marketing authorisation holder of VeraSeal (see section 6.6).

When using accessory tips, the instructions for use of the tips should be followed.

Before administration of VeraSeal, care must be taken that the parts of the body outside the desired application area are sufficiently protected (covered) to prevent tissue adhesion at undesired sites.

VeraSeal should be applied as a thin layer. Excessive clot thickness may negatively interfere with the product's efficacy and the wound healing process.

Adequate data are not available to support the use of this product in tissue gluing, neurosurgery, application through a flexible endoscope for treatment of bleeding or in gastrointestinal anastomoses.

#### Hypersensitivity reactions

As with any protein product, allergic type hypersensitivity reactions are possible. Signs of hypersensitivity reactions include hives, generalised urticaria, tightness of the chest, wheezing, hypotension, and anaphylaxis. If these symptoms occur, the administration must be discontinued immediately. In case of shock, standard medical treatment for shock should be implemented.

#### Transmissible agents

Standard measures to prevent infections resulting from the use of medicinal products prepared from human blood or plasma include selection of donors, screening of individual donations and plasma pools for specific markers of infection and the inclusion of effective manufacturing steps for the inactivation /removal of viruses. Despite this, when medicinal products prepared from human blood or plasma are administered, the possibility of transmitting infective agents cannot be totally excluded. This also applies to unknown or emerging viruses and other pathogens.

The measures taken are considered effective for enveloped viruses such as human immunodeficiency virus (HIV), hepatitis B virus and hepatitis C virus, and for the non-enveloped hepatitis A virus. The measures taken may be of limited value against non-enveloped viruses such as parvovirus B19. Parvovirus B19 infection may be serious for pregnant women (foetal infection) and for individuals with immunodeficiency or increased erythropoiesis (e.g. haemolytic anaemia).

### **4.5 Interaction with other medicinal products and other forms of interaction**

No formal interaction studies have been performed. Similar to comparable products or thrombin solutions, the product may be denatured after exposure to solutions containing alcohol, iodine or heavy metals (e.g. antiseptic solutions). Such substances should be removed to the greatest possible extent before applying the product.

### **4.6 Fertility, pregnancy and lactation**

#### Pregnancy and breast-feeding

The safety of fibrin sealant/haemostatic products for use in human pregnancy or breast-feeding has not been established in controlled clinical trials. Experimental animal studies are insufficient to assess the safety with respect to reproduction, development of the embryo or foetus, the course of gestation and peri- and post-natal development. Therefore, the product should be administered to pregnant and breast-feeding women only if clearly needed.

#### Fertility

Fertility studies have not been conducted.

### **4.7 Effects on ability to drive and use machines**

VeraSeal has no or negligible influence on the ability to drive and use machines.

### **4.8 Undesirable effects**

#### Summary of the safety profile

Hypersensitivity or allergic reactions (which may include angioedema, burning and stinging at the application site, bronchospasm, chills, flushing, generalised urticaria, headache, hives, hypotension, lethargy, nausea, restlessness, tachycardia, tightness of the chest, tingling, vomiting, wheezing) may

occur in rare cases in patients treated with fibrin sealant/haemostatic products. In isolated cases, these reactions have progressed to severe anaphylaxis. Such reactions may especially be seen, if the preparation is applied repeatedly, or administered to patients known to be hypersensitive to constituents of the product.

Antibodies against components of fibrin sealant/haemostatic products may occur rarely.

Inadvertent intravascular injection could lead to thromboembolic event and disseminated intravascular coagulation (DIC), and there is also a risk of anaphylactic reaction (see section 4.4).

For safety information with respect to transmissible agents, see section 4.4.

#### Tabulated list of adverse reactions

The table presented below is according to the MedDRA system organ classification (SOC and Preferred Term Level).

Frequencies have been evaluated according to the following convention:

- Very common ( $\geq 1/10$ )
- common ( $\geq 1/100$  to  $< 1/10$ )
- uncommon ( $\geq 1/1,000$  to  $< 1/100$ )
- rare ( $\geq 1/10,000$  to  $< 1/1,000$ )
- very rare ( $< 1/10,000$ )
- not known (cannot be estimated from the available data).

Within each frequency grouping, adverse reactions are presented in order of decreasing of seriousness.

**Table 1. Frequency of adverse reactions (ARs) in clinical trials with VeraSeal**

<b>MedDRA system organ class (SOC)</b>	<b>Adverse reaction</b>	<b>Frequency</b>
Infections and infestations	Abdominal abscess, cellulitis, liver abscess, peritonitis, postoperative wound infection, wound infection incision site infection, post procedural infection.	Uncommon
Neoplasms benign, malignant and unspecified (including cysts and polyps)	Plasma cell myeloma	Uncommon
Blood and lymphatic system disorders	Anaemia, haemorrhagic anaemia, leukocytosis, leukopenia	Uncommon
Immune system disorders	Hypersensitivity*	Unknown
Metabolism and nutrition disorders	Hyperglycaemia, hyperkalaemia, hypocalcaemia, hypoglycaemia, hypokalaemia, hypomagnesaemia, hyponatraemia, hypoproteinaemia	Uncommon
Psychiatric disorders	Anxiety, insomnia	Uncommon
Nervous system disorders	Headache, somnolence	Uncommon
Eye disorders	Conjunctival irritation	Uncommon
Cardiac disorders	Atrial fibrillation, ventricular tachycardia	Uncommon
Vascular disorders	Deep vein thrombosis, hypertension, hypotension	Uncommon

MedDRA system organ class (SOC)	Adverse reaction	Frequency
Respiratory, thoracic and mediastinal disorders	Pulmonary embolism, dyspnoea, hypoxia, pleural effusion, pleurisy, pulmonary oedema, rhonchi, wheezing	Uncommon
Gastrointestinal disorders	Nausea	Common
	Constipation, flatulence, ileus, retroperitoneal haematoma, vomiting	Uncommon
Skin and subcutaneous tissue disorders	Pruritus	Common
	Ecchymosis, erythema	Uncommon
Musculoskeletal and connective tissue disorders	Back pain, pain in extremity	Uncommon
Renal and urinary disorders	Bladder spasm, dysuria, urinary retention	Uncommon
General disorders and administration site conditions	Chills, hyperthermia, oedema peripheral, pain, pyrexia, vessel puncture site haematoma	Uncommon
Investigations	Parvovirus B19 test positive, activated partial thromboplastin time prolonged, alanine aminotransferase increased, aspartate aminotransferase increased, blood bilirubin increase, blood glucose increase, international normalised ratio increased, prothrombin time prolonged, transaminases increased, urine output decreased	Uncommon
	Drug specific antibody present*	Unknown
Injury, poisoning and procedural complications	Procedural pain	Common
	Abdominal wound dehiscence, post procedural bile leak, contusion, incision site erythema, incision site pain, post procedural haemorrhage, procedural hypotension, vascular graft complication, vascular graft thrombosis, wound secretion	Uncommon
*All these reactions are class effect. None were reported in clinical trials; thus it is not possible to establish frequencies.		

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via **the national reporting system** listed in [Appendix V](#).

#### **4.9 Overdose**

In the event of overdose, patients must be closely monitored for signs or symptoms of adverse reactions and appropriate symptomatic treatment and supportive measures instituted.

## 5. PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Antihæmorrhagics, local hemostatics, ATC code: B02BC

#### Mechanism of action

The fibrin adhesion system initiates the last phase of physiological blood coagulation. Conversion of fibrinogen into fibrin occurs by the splitting of fibrinogen into fibrin monomers and fibrinopeptides. The fibrin monomers aggregate and form a fibrin clot. Factor XIIIa, which is activated from factor XIII by thrombin, crosslinks fibrin. Calcium ions are required for both, the conversion of fibrinogen and the crosslinkage of fibrin.

As wound healing progresses, increased fibrinolytic activity is induced by plasmin and decomposition of fibrin to fibrin degradation products is initiated.

#### Clinical efficacy and safety

Randomized, single-blind clinical trials with VeraSeal were conducted in subjects undergoing vascular, parenchymous tissue and soft tissue surgery demonstrating hæmostasis, and suture support in vascular surgery.

During the vascular surgery study 225 subjects were enrolled and underwent vascular surgical procedures utilizing polytetrafluoroethylene graft material on end-to-side arterial anastomosis or on upper extremity vascular access arterial anastomosis. The mean age of the study population and its standard deviation was 63.2 (9.5) years. The most frequent surgery types were femoral-popliteal bypass grafting, upper extremity vascular access for hemodialysis, and ilio-femoral bypass grafting. VeraSeal was shown to be superior to the control group (manual compression) in achieving hæmostasis by 4 minutes. The rate of hæmostasis at the target bleeding site by 4 minutes was 76.1% in the VeraSeal treatment group and was 22.8% in the control group.

During parenchymous tissue surgery study 325 subjects were enrolled and underwent liver resections. The mean age of the study population and its standard deviation was 57.9 (14.5) years. VeraSeal was shown to be superior to the control group (oxidized regenerated cellulose) in achieving hæmostasis by 4 minutes. The rate of hæmostasis at the target bleeding site by 4 minutes was 92.8% in the VeraSeal treatment group and was 80.5% in the control group.

During soft tissue surgery study 327 subjects were enrolled and underwent pelvic and retroperitoneal surgical procedures, and abdominoplasties and mastopexies. The mean age of the study population and its standard deviation was 47.2 (18.4) years. The most frequent surgery types were simple or radical hysterectomies, abdominoplasties, and radical cystectomies. VeraSeal was shown to be non-inferior to the control group (oxidized regenerated cellulose) in achieving hæmostasis by 4 minutes. The rate of hæmostasis at the target bleeding site by 4 minutes was 82.8% in the VeraSeal treatment group and was 77.8% in the control group.

#### Paediatric population

Eleven paediatric subjects aged 16 years or younger were treated with VeraSeal in the described clinical trials.

The European Medicines Agency has deferred the obligation to submit the results of studies with VeraSeal in one or more subsets of the paediatric population for the treatment of hæmorrhage resulting from a surgical procedure as per paediatric investigational plan (PIP) decision, for the granted indication (see section 4.2 for information on paediatric use).

## **5.2 Pharmacokinetic properties**

VeraSeal is intended for epilesional use only. Intravascular administration is contraindicated. Consequently, intravascular pharmacokinetic studies were not performed in man.

Fibrin sealant/haemostatic products are metabolised in the same way as endogenous fibrin by fibrinolysis and phagocytosis.

## **5.3 Preclinical safety data**

Non-clinical data reveal no special hazard for humans based on conventional studies of safety pharmacology and acute toxicity.

# **6. PHARMACEUTICAL PARTICULARS**

## **6.1 List of excipients**

### Human fibrinogen syringe

Sodium citrate dihydrated  
Sodium chloride  
Arginine  
Isoleucine  
Glutamic acid monosodium  
Water for injections

### Human thrombin syringe

Calcium chloride  
Human albumin  
Sodium chloride  
Glycine  
Water for injections

## **6.2 Incompatibilities**

This medicinal product must not be mixed with other medicinal products.

## **6.3 Shelf life**

2 years.

After thawing, it can be maintained not more than 7 days at 2 °C - 8 °C or 24 hours not above 25 °C before use if it remains sealed in the original packaging.

In use shelf life: Once the blister is opened, VeraSeal should be used immediately.

## **6.4 Special precautions for storage**

Store and transport frozen (at - 18 °C or colder). The cold storage chain (- 18 °C or colder) must not be interrupted until use. Keep the sterilized blister in the outer carton to protect from light.

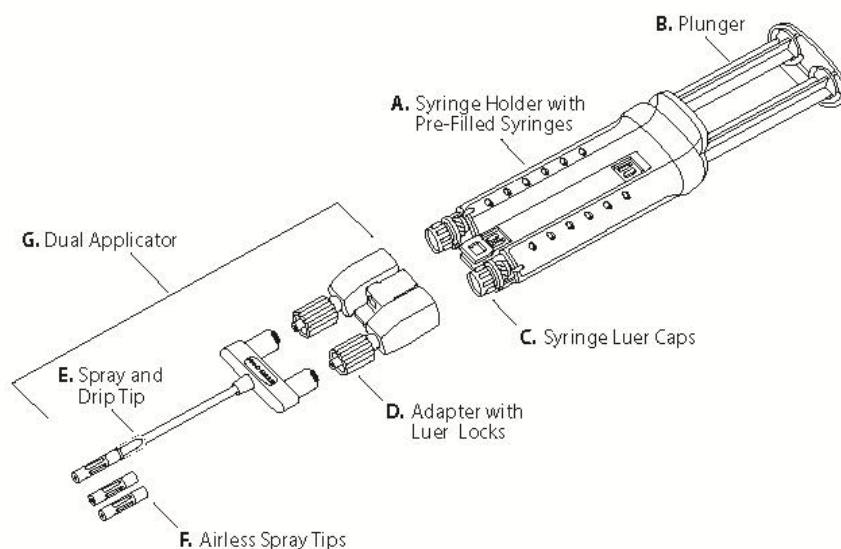
Once thawed, do not refreeze. For storage conditions after thawing the medicinal product and after first opening, see section 6.3.



## 6.5 Nature and contents of container

VeraSeal is supplied as a single-use kit containing two pre-filled syringes (glass type I) with rubber stoppers, each with a sterile frozen solution, assembled in a syringe holder.

One Dual Applicator with two additional Airless Spray Tips is supplied with the product, for application by spraying or dripping. The Airless Spray Tips are radiopaque. See scheme below.



VeraSeal is available in the following pack sizes:

- VeraSeal 2 ml (containing 1 ml of human fibrinogen and 1 ml of human thrombin)
- VeraSeal 4 ml (containing 2 ml of human fibrinogen and 2 ml of human thrombin)
- VeraSeal 6 ml (containing 3 ml of human fibrinogen and 3 ml of human thrombin)
- VeraSeal 10 ml (containing 5 ml of human fibrinogen and 5 ml of human thrombin)

Not all pack sizes may be marketed.

## 6.6 Special precautions for disposal and other handling

The instructions for use are also described in the healthcare professionals' package leaflet part.

An overview of thawing methods and storage after thawing is provided in Table 2.

**Table 2. Thawing and storage after thawing**

Thawing method	Thawing time per package size		Storage after thawing
	For 2 ml and 4 ml	For 6 ml and 10 ml	
Refrigerator (2 – 8 °C)	Minimum 7 hours	Minimum 10 hours	7 days at 2 - 8 °C (refrigerator) in original package OR 24 hours not above 25 °C in original package
Thawing at 20 - 25 °C	Minimum 70 minutes	Minimum 90 minutes	
Sterile water bath (37 °C) inside sterile field	Minimum 5 minutes. Do not exceed 10 minutes.	Minimum 5 minutes. Do not exceed 10 minutes.	Use immediately during the surgery

- **Preferred thawing methods**

Refrigerator thawing

1. Remove carton from freezer and place it in the refrigerator for thawing at 2 – 8 °C  
a minimum of 7 hours for the 2 ml and the 4 ml package sizes  
a minimum of 10 hours for the 6 ml and the 10 ml package sizes

After thawing, it is not necessary to warm the product for its use.

After thawing, the solutions must be clear to slightly opalescent and colourless to pale yellow. Do not use solutions that are cloudy or have deposits.

Thawing at 20 °C - 25 °C

Remove carton from freezer, open it and take out the two blisters.

Place the blister containing the Dual Applicator on a surface at 20 °C - 25 °C until the fibrin sealant is ready to use.

Thaw blister with VeraSeal pre-filled syringes at 20 °C - 25 °C using the following steps:

1. Place the blister containing the syringe holder with pre-filled syringes on a surface at 20 °C - 25 °C  
a minimum of 70 minutes for the 2 ml and the 4 ml package sizes  
a minimum of 90 minutes for the 6 ml and the 10 ml package sizes

After thawing, it is not necessary to warm the product for its use.

After thawing the solutions must be clear to slightly opalescent and colourless to pale yellow. Solutions that are cloudy or have deposits should not be used.

*Post-thawing storage*

After thawing, the kit containing the VeraSeal syringe holder with pre-filled syringes and Dual Applicator can be stored before use for not more than 7 days in the refrigerator at 2 - 8 °C or 24 hours not above 25 °C if it remains sealed in the original packaging. Once the blisters are opened, use VeraSeal immediately and discard any unused contents.

Once thawed, do not refreeze.

*Transferring instructions*

1. After thawing, remove the blister from the surface at 20 °C - 25 °C or from the refrigerator at 2 °C - 8 °C.
2. Open the blister and confirm that the VeraSeal pre-filled syringes are completely thawed. Make the VeraSeal syringe holder with pre-filled syringes available to a second person for transfer to the sterile field. The outside of the blister should not come in contact with the sterile field. See Figure 1.



Figure 1

- **Sterile Water Bath (Quick Thawing)**

Remove carton from freezer, open it and take out the two blisters.  
Place the blister containing the Dual Applicator on a surface at 20 °C - 25 °C until the fibrin sealant is ready to use.

Thaw VeraSeal pre-filled syringes inside the sterile field in a sterile thermostatic water bath at a temperature of 37±2 °C using the following steps:

NOTE: Once the VeraSeal blisters are opened, use the product immediately. Use sterile technique to avoid the possibility of contamination due to improper handling, and follow the steps below accurately. Do not remove the syringe luer cap until thawing is complete and the Dual Applicator is ready to be attached.

1. Open the blister and make the VeraSeal syringe holder with pre-filled syringes available to a second person for transfer to the sterile field. The outside of the blister should not come in contact with the sterile field. See Figure 1.
2. Place the syringe holder with pre-filled syringes directly into the sterile water bath ensuring that it is completely immersed in the water. See Figure 2.
3. At 37 °C, the time needed is approximately 5 minutes for the 2 ml, 4 ml, 6 ml, and 10 ml package sizes, but must not be left at this temperature for longer than 10 minutes. The temperature of the water bath must not exceed 39 °C.
4. Dry the syringe holder with pre-filled syringes after thawing, using a sterile surgical gauze.

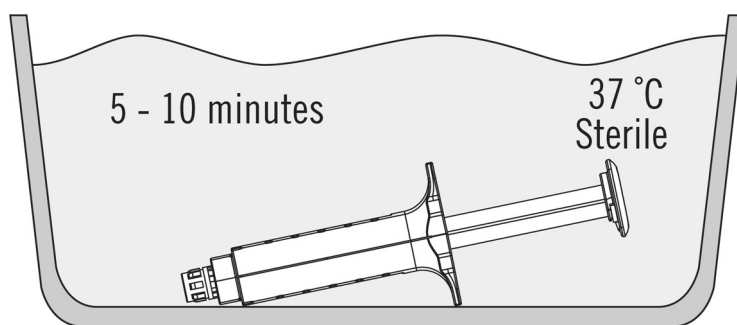


Figure 2

Confirm that the VeraSeal pre-filled syringes are completely thawed. After thawing, the solutions must be clear to slightly opalescent and colorless to pale yellow. Do not use solutions that are cloudy or have deposits.

Use VeraSeal immediately and discard any unused contents.

- **Connection instructions**

1. Open the blister and make the VeraSeal Dual Applicator and two additional Airless Spray Tips available to a second person for transfer to the sterile field. The outside of the blister should not come in contact with the sterile field.
2. Hold the VeraSeal syringe holder with syringe luer caps pointed upward. See Figure 3.
3. Unscrew and discard the syringe luer cap of both fibrinogen and thrombin syringes. See Figure 3.

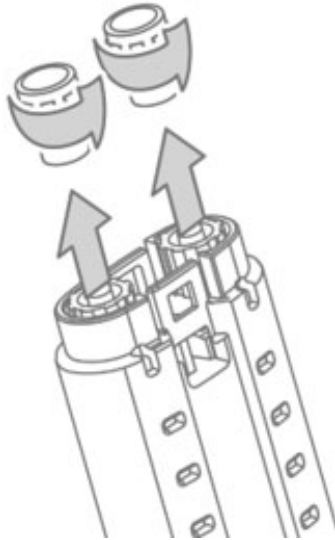


Figure 3

4. Hold the syringe holder with the luer caps pointed upward. To remove air bubbles from syringes, strike gently the side of the syringe holder one or two times while keeping the syringe holder in an upright position and lightly depress the plunger to eject air. See Figure 4.

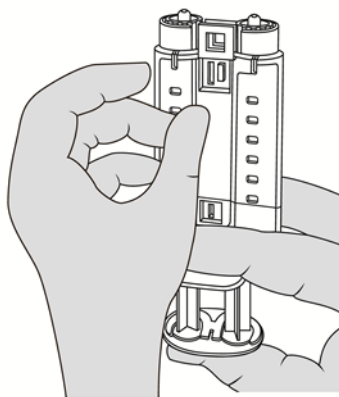


Figure 4

5. Attach the Dual Applicator. See Figure 5.  
NOTE: Do not depress plunger during attachment or prior to intended use because the two biologic components will pre-mix in the Airless Spray Tip, forming a fibrin clot that prevents dispensing. See Figure 6.

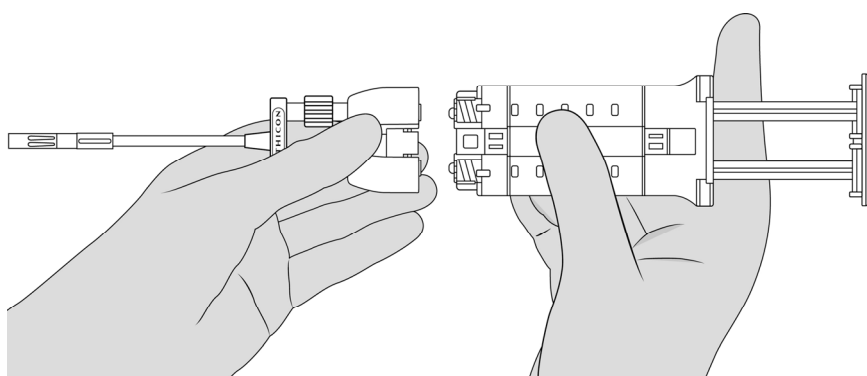


Figure 5

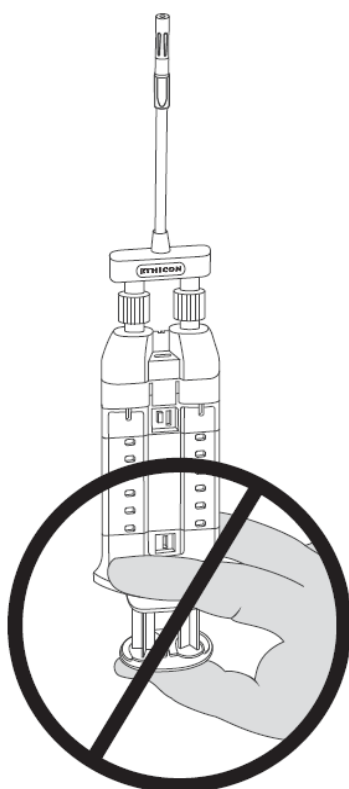


Figure 6

6. Tighten luer locks and ensure the Dual Applicator is firmly attached. The device is now ready to use.

- **Administration**

Apply VeraSeal using the syringe holder and plunger supplied.

Apply VeraSeal using the Dual Applicator provided with the product. Other CE-marked applicator tips (including open surgery and laparoscopic use devices) intended for specific use with VeraSeal may also be used. When using the provided Dual Applicator, follow the connection instructions described above. When using other applicator tips, follow the instructions for use that are provided with the applicator tips.

Application by spraying

1. Grasp and bend the Dual Applicator to the desired position. Tip will retain its shape.

2. Position the Airless Spray Tip at least 2 cm away from the target tissue. Apply firm even pressure to the plunger to spray the fibrin sealant. Increase distance accordingly to achieve desired coverage of the target area.
3. If expression is stopped for any reason, change the Airless Spray Tip prior to resuming application since a clot may form inside the Airless Spray Tip. To change the Airless Spray Tip, remove the device from the patient and unscrew the used Airless Spray Tip. See Figure 7. Place the used Airless Spray Tip away from the spare Airless Spray Tips. Wipe the end of the applicator using dry or moist sterile surgical gauze. Then, connect a new Airless Spray Tip provided in the package and ensure it is firmly connected before use.

NOTE: Red indicator will not be visible if Airless Spray Tip is properly connected. See Figure 8.

NOTE: Do not continue pushing the plunger in an attempt to clear the fibrin clot within the Airless Spray Tip; otherwise the applicator may become unusable.

NOTE: Do not trim the Dual Applicator to avoid exposing internal wire.

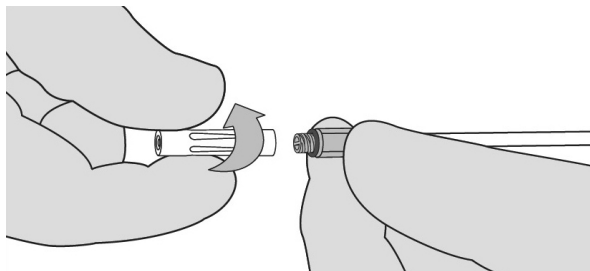


Figure 7

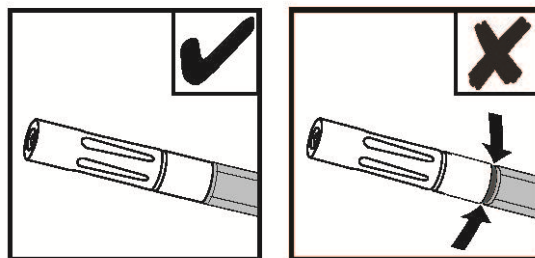


Figure 8

#### Application by dripping

1. Remove the Airless Spray Tip portion of the spray and drip tip by unscrewing the Airless Spray Tip. See Figure 7.
2. Grasp and bend the drip tip to the desired position. Tip will retain its shape.
3. During dripping, keep the end of the drip tip as close to the tissue surface as possible without touching the tissue during application.
4. Apply individual drops to the surface area to be treated. To prevent uncontrolled clotting, allow the drops to separate from each other and from the end of the drip tip.

NOTE: Do not reconnect a used drip tip after it has been removed from the adapter; otherwise a clot may form inside the drip tip and the applicator may become unusable.

#### • **Disposal**

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

**7. MARKETING AUTHORISATION HOLDER**

Instituto Grifols, S.A.  
Can Guasc, 2 - Parets del Vallès  
E-08150 Barcelona - Spain

**8. MARKETING AUTHORISATION NUMBER(S)**

EU/1/17/1239/001-004

**9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of first authorisation: 10 November 2017  
Date of latest renewal: 19 September 2022

**10. DATE OF REVISION OF THE TEXT**

Detailed information on this medicinal product is available on the website of the European Medicines Agency <http://www.ema.europa.eu>.

## **ANNEX II**

- A. MANUFACTURER(S) OF THE BIOLOGICAL ACTIVE SUBSTANCE(S) AND MANUFACTURER(S) RESPONSIBLE FOR BATCH RELEASE**
- B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE**
- C. OTHER CONDITIONS AND REQUIREMENTS OF THE MARKETING AUTHORISATION**
- D. CONDITIONS OR RESTRICTIONS WITH REGARD TO THE SAFE AND EFFECTIVE USE OF THE MEDICINAL PRODUCT**



**A. MANUFACTURER(S) OF THE BIOLOGICAL ACTIVE SUBSTANCE(S) AND MANUFACTURER(S) RESPONSIBLE FOR BATCH RELEASE**

Name and address of the manufacturer(s) of the biological active substance(s)

Instituto Grifols, S.A.  
Polígono Levante  
c/Can Guasc 2  
Barcelona  
08150 Parets del Vallès  
SPAIN

Name and address of the manufacturer(s) responsible for batch release

Instituto Grifols, S.A.  
Polígono Levante  
c/Can Guasc 2  
Barcelona  
08150 Parets del Vallès  
SPAIN

**B. CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE**

Medicinal product subject to restricted medical prescription (see Annex I: Summary of Product Characteristics, section 4.2).

- **Official batch release**

In accordance with Article 114 of Directive 2001/83/EC, the official batch release will be undertaken by a state laboratory or a laboratory designated for that purpose.

**C. OTHER CONDITIONS AND REQUIREMENTS OF THE MARKETING AUTHORISATION**

- **Periodic safety update reports (PSURs)**

The requirements for submission of PSURs for this medicinal product are set out in the list of Union reference dates (EURD list) provided for under Article 107c(7) of Directive 2001/83/EC and any subsequent updates published on the European medicines web-portal.

**D. CONDITIONS OR RESTRICTIONS WITH REGARD TO THE SAFE AND EFFECTIVE USE OF THE MEDICINAL PRODUCT**

- **Risk management plan (RMP)**

The marketing authorisation holder (MAH) shall perform the required pharmacovigilance activities and interventions detailed in the agreed RMP presented in Module 1.8.2 of the marketing authorisation and any agreed subsequent updates of the RMP.

An updated RMP should be submitted:

- At the request of the European Medicines Agency;
- Whenever the risk management system is modified, especially as the result of new information being received that may lead to a significant change to the benefit/risk profile or as the result of an important (pharmacovigilance or risk minimisation) milestone being reached.

**ANNEX III**  
**LABELLING AND PACKAGE LEAFLET**

## **A. LABELLING**

## **PARTICULARS TO APPEAR ON THE OUTER PACKAGING**

**CARTON [2 ml, 4 ml, 6 ml and 10 ml]**

### **1. NAME OF THE MEDICINAL PRODUCT**

VeraSeal solutions for sealant

human fibrinogen / human thrombin

### **2. STATEMENT OF ACTIVE SUBSTANCE(S)**

Component 1: 1 ml of human fibrinogen (80 mg/ml)

Component 2: 1 ml of human thrombin (500 IU/ml)

Component 1: 2 ml of human fibrinogen (80 mg/ml)

Component 2: 2 ml of human thrombin (500 IU/ml)

Component 1: 3 ml of human fibrinogen (80 mg/ml)

Component 2: 3 ml of human thrombin (500 IU/ml)

Component 1: 5 ml of human fibrinogen (80 mg/ml)

Component 2: 5 ml of human thrombin (500 IU/ml)

### **3. LIST OF EXCIPIENTS**

Excipients:

human fibrinogen – Sodium citrate dihydrated, sodium chloride, arginine, isoleucine, glutamic acid monosodium, water for injections.

human thrombin – Calcium chloride, human albumin, sodium chloride, glycine, water for injections.

### **4. PHARMACEUTICAL FORM AND CONTENTS**

Solutions for sealant

2 ml

4 ml

6 ml

10 ml

Two pre-filled syringes assembled in a syringe holder.

1 Dual Applicator with 2 additional Airless Spray Tips.

### **5. METHOD AND ROUTE(S) OF ADMINISTRATION**

Read the package leaflet before use.

Epilesional use.

<b>6. SPECIAL WARNING THAT THE MEDICINAL PRODUCT MUST BE STORED OUT OF THE SIGHT AND REACH OF CHILDREN</b>
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Keep out of the sight and reach of children.

<b>7. OTHER SPECIAL WARNING(S), IF NECESSARY</b>
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<b>8. EXPIRY DATE</b>
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EXP

<b>9. SPECIAL STORAGE CONDITIONS</b>
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Store and transport frozen (-18 °C or colder).

Thaw completely before use. Do not refreeze once thawed.

<b>10. SPECIAL PRECAUTIONS FOR DISPOSAL OF UNUSED MEDICINAL PRODUCTS OR WASTE MATERIALS DERIVED FROM SUCH MEDICINAL PRODUCTS, IF APPROPRIATE</b>
--

<b>11. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER</b>
---

Instituto Grifols, S.A.  
Can Guasc, 2 - Parets del Vallès  
E-08150 Barcelona  
Spain

<b>12. MARKETING AUTHORISATION NUMBER(S)</b>
--

EU/1/17/1239/001 2 ml  
EU/1/17/1239/002 4 ml  
EU/1/17/1239/003 6 ml  
EU/1/17/1239/004 10 ml

<b>13. BATCH NUMBER</b>
-------------------------

Lot

<b>14. GENERAL CLASSIFICATION FOR SUPPLY</b>
--

<b>15. INSTRUCTIONS ON USE</b>
--------------------------------

<b>16. INFORMATION IN BRAILLE</b>
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Justification for not including Braille accepted.

<b>17. UNIQUE IDENTIFIER – 2D BARCODE</b>
---

2D barcode carrying the unique identifier included.

<b>18. UNIQUE IDENTIFIER - HUMAN READABLE DATA</b>
--

PC

SN

NN

**PARTICULARS TO APPEAR ON THE IMMEDIATE PACKAGING****BLISTER LABEL [2 ml, 4 ml, 6 ml and 10 ml]****1. NAME OF THE MEDICINAL PRODUCT**

VeraSeal solutions for sealant

human fibrinogen / human thrombin

**2. STATEMENT OF ACTIVE SUBSTANCE(S)**

Component 1: 1 ml of human fibrinogen (80 mg/ml)

Component 2: 1 ml of human thrombin (500 IU/ml)

Component 1: 2 ml of human fibrinogen (80 mg/ml)

Component 2: 2 ml of human thrombin (500 IU/ml)

Component 1: 3 ml of human fibrinogen (80 mg/ml)

Component 2: 3 ml of human thrombin (500 IU/ml)

Component 1: 5 ml of human fibrinogen (80 mg/ml)

Component 2: 5 ml of human thrombin (500 IU/ml)

**3. LIST OF EXCIPIENTS****4. PHARMACEUTICAL FORM AND CONTENTS**

Solutions for sealant

2 ml

4 ml

6 ml

10 ml

Two pre-filled syringes assembled in a syringe holder.

**5. METHOD AND ROUTE(S) OF ADMINISTRATION**

Read the package leaflet before use.

Epilepsional use.

**6. SPECIAL WARNING THAT THE MEDICINAL PRODUCT MUST BE STORED OUT OF THE SIGHT AND REACH OF CHILDREN****7. OTHER SPECIAL WARNING(S), IF NECESSARY**



**8. EXPIRY DATE**

EXP

**9. SPECIAL STORAGE CONDITIONS**

Store and transport frozen (-18 °C or colder).

Thaw completely before use. Do not refreeze once thawed.

**10. SPECIAL PRECAUTIONS FOR DISPOSAL OF UNUSED MEDICINAL PRODUCTS OR WASTE MATERIALS DERIVED FROM SUCH MEDICINAL PRODUCTS, IF APPROPRIATE****11. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER**

Instituto Grifols, S.A.

**12. MARKETING AUTHORISATION NUMBER(S)****13. BATCH NUMBER**

Lot

**14. GENERAL CLASSIFICATION FOR SUPPLY****15. INSTRUCTIONS ON USE****16. INFORMATION IN BRAILLE**

Justification for not including Braille accepted

**17. UNIQUE IDENTIFIER – 2D BARCODE****18. UNIQUE IDENTIFIER - HUMAN READABLE DATA**

**MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS**  
**SYRINGE LABEL – HUMAN FIBRINOGEN (1 ml, 2 ml, 3 ml and 5 ml)**

**1. NAME OF THE MEDICINAL PRODUCT AND ROUTE(S) OF ADMINISTRATION**

VeraSeal solutions for sealant  
Component 1: Fibrinogen 80 mg/ml  
Epilesional use.

**2. METHOD OF ADMINISTRATION**

Read the package leaflet before use.

**3. EXPIRY DATE**

EXP

**4. BATCH NUMBER**

Lot

**5. CONTENTS BY WEIGHT, BY VOLUME OR BY UNIT**

1 ml  
2 ml  
3 ml  
5 ml

**6. OTHER**

**MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS**  
**SYRINGE LABEL – HUMAN THROMBIN (1 ml, 2 ml, 3 ml and 5 ml)**

**1. NAME OF THE MEDICINAL PRODUCT AND ROUTE(S) OF ADMINISTRATION**

VeraSeal solutions for sealant  
Component 2: Thrombin 500 IU/ml  
Epilesional use.

**2. METHOD OF ADMINISTRATION**

Read the package leaflet before use.

**3. EXPIRY DATE**

EXP

**4. BATCH NUMBER**

Lot

**5. CONTENTS BY WEIGHT, BY VOLUME OR BY UNIT**

1 ml  
2 ml  
3 ml  
5 ml

**6. OTHER**

## **B. PACKAGE LEAFLET**

## **Package leaflet: Information for the user**

### **VeraSeal solutions for sealant** human fibrinogen/human thrombin

**Read all of this leaflet carefully before you start using this medicine because it contains important information for you.**

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor.
- If you get any side effects, talk to your doctor. This includes any possible side effects not listed in this leaflet. See section 4.

#### **What is in this leaflet**

1. What VeraSeal is and what it is used for
2. What you need to know before you are treated with VeraSeal
3. How VeraSeal is used
4. Possible side effects
5. How VeraSeal is stored
6. Contents of the pack and other information

#### **1. What VeraSeal is and what it is used for**

VeraSeal contains human fibrinogen and human thrombin, two proteins extracted from the blood that form a clot when they are mixed together.

VeraSeal is used as a sealant during surgical operations in adults. It is applied to the surface of bleeding tissue to reduce bleeding during and after the operation when standard surgical techniques are not sufficient.

#### **2. What you need to know before you are treated with VeraSeal**

##### **Your surgeon must not treat you with VeraSeal**

- if you are allergic to human fibrinogen or human thrombin or any of the other ingredients of this medicine (listed in section 6).

VeraSeal must not be applied inside blood vessels.

VeraSeal must not be used to treat severe or rapid bleeding from an artery.

#### **Warnings and precautions**

Allergic reactions are possible. Signs of such reactions include hives, rash, tightness of the chest, wheezing, drop in blood pressure (e.g. light-headedness, fainting, blurred vision), and anaphylaxis (a severe reaction with a rapid onset). If these symptoms occur during surgery, the use of the medicine should be stopped immediately.

VeraSeal spray application should only be used if it is possible to accurately judge the spray distance. The spray device should not be used closer than the recommended distance.

### Special safety warning

For medicines such as VeraSeal that are made from human blood or plasma, certain measures are taken to prevent infections being passed on to patients. These include carefully selecting blood and plasma donors to make sure those at risk of carrying infections are excluded, and testing each donation and pooled plasma for signs of virus/infections. Manufacturers also include steps in the processing of the blood or plasma that can inactivate or remove viruses. Despite these measures, when medicines prepared from human blood or plasma are administered, the possibility of passing on infection cannot be totally excluded. This also applies to any unknown or emerging viruses or other types of infections.

The measures taken are considered effective for enveloped viruses such as human immunodeficiency virus (HIV), hepatitis B virus and hepatitis C virus, and for the non-enveloped hepatitis A virus. The measures taken may be of limited value against non-enveloped viruses such as parvovirus B19. Parvovirus B19 infection may be serious for pregnant women (fetal infection) and for individuals whose immune system is depressed or who have some types of anaemia (e.g. sickle cell disease or haemolytic anaemia).

It is strongly recommended that every time you are treated with VeraSeal, the name and batch number of the medicine are recorded in order to maintain a record of the batches used.

### **Children and adolescents**

VeraSeal is not recommended for use in children and adolescents under 18 years of age.

### **Other medicines and VeraSeal**

The product may be affected after contacting solutions containing alcohol, iodine or heavy metals (e.g. antiseptic solutions).

Tell your doctor or pharmacist if you are taking, have recently taken or might take any other medicines.

### **Pregnancy and breast-feeding**

If you are pregnant or breast-feeding, think you may be pregnant or are planning to have a baby, ask your doctor for advice before being treated with this medicine. Your doctor will decide whether you should be treated with VeraSeal.

## **3. How VeraSeal is used**

The use of VeraSeal is restricted to experienced surgeons who have been trained in the use of VeraSeal.

The surgeon will apply VeraSeal to the surface of blood vessels or to the tissue surface of internal organs using an application device during the course of the operation. This device allows equal amounts of the two components of VeraSeal to be administered at the same time, and ensures that they mix evenly, which is important for the sealant to work at its best.

The amount of VeraSeal that will be applied depends on a number of factors, including the type of surgery, the size of the area to be treated during your operation and the way VeraSeal is applied. The surgeon will decide how much is appropriate, and will apply just enough to form a thin, even layer. If it does not seem to be enough, a second layer can be applied.

#### 4. Possible side effects

Like all medicines, this medicine can cause side effects, although not everybody gets them.

VeraSeal contains the component of fibrin sealant. Fibrin sealants may, in rare cases (up to 1 in 1,000 people), cause an allergic reaction. If you experience an allergic reaction you might have one or more of the following symptoms: swelling under skin (angioedema), skin rash, hives or wheals (nettle-rash), tightness of the chest, chills, flushing, headache, low blood pressure, lethargy, nausea, restlessness, heart rate increase, tingling, vomiting or wheezing. In isolated cases, these reactions may progress to a severe allergic reaction. Allergic reactions may especially be seen if the preparation is applied repeatedly, or administered to patients known to be allergic to constituents of the product. If you experience any of these symptoms after surgery, you should immediately consult your doctor or surgeon.

There is also a theoretical possibility that your immune system will produce proteins to attack VeraSeal and, that these may interfere with your blood clotting. The frequency of this type of event is not known.

If this product is accidentally placed inside a blood vessel, it can lead to blood clots, including disseminated intravascular coagulation (DIC) (when blood clots form throughout the blood vessels in the body). There is also a risk of a severe allergic reaction.

Side effects which were reported during clinical trials with VeraSeal included:

##### Most serious side effects

Uncommon (may affect up to 1 in 100 people):

- Abdominal (belly) abscess (swollen area in abdomen caused by infection)
- Abdominal (belly) wound dehiscence (wound breakdown due to incomplete healing)
- Leak of bile (a liquid produced by the liver) after the procedure
- Cellulitis (infection of the skin)
- Deep vein thrombosis (blood clots in the blood vessels)
- Liver abscess (swollen area in the liver caused by infection)
- Peritonitis (inflammation of the wall of the abdomen)
- Positive parvovirus B19 test (laboratory result showing infection with the virus)
- Postoperative wound infection
- Pulmonary embolism (blood clots in blood vessels in the lungs)
- Wound infection

##### Other side effects

Common (may affect up to 1 in 10 people):

- Nausea
- Pain caused by the surgery
- Pruritus (itching)

Uncommon (may affect up to 1 in 100 people):

- Anaemia (insufficiency of red blood cells)
- Anxiety
- Atrial fibrillation (irregular heartbeat)
- Back pain
- Bladder spasm
- Chills
- Conjunctival irritation (eye irritation)

- Constipation
- Contusion (bruise)
- Decreased urine output (reduced urine production)
- Dyspnoea (difficulty in breathing)
- Dysuria (pain or difficulty in urination)
- Ecchymosis (bruising)
- Erythema (reddening of the skin)
- Flatulence
- Headache
- High body temperature
- High or low blood pressure
- High or low levels of white cells in blood
- High potassium levels in blood
- Ileus (obstruction of the intestine)
- Impaired coagulation of blood
- Incision site erythema (reddening of the skin at the incision site)
- Incision site infection
- Increased blood bilirubin
- Increased levels of liver enzymes
- Increased or decreased glucose levels in blood
- Insomnia
- Low blood pressure due to the procedure
- Low calcium levels in blood
- Low magnesium levels in blood
- Low oxygen in blood
- Low potassium levels in blood
- Low protein levels in blood
- Low red blood cell levels caused by blood loss
- Low sodium levels in blood
- Oedema peripheral (accumulation of fluid)
- Pain, not specified
- Pain at the incision site
- Pain in extremity
- Plasma cell myeloma (cancer of blood cells)
- Pleural effusion (abnormal amount of fluid around the lung)
- Pleurisy (inflammation of lungs wall)
- Post procedural haemorrhage (bleeding after the procedure)
- Post procedural infection (infection after the procedure)
- Pulmonary oedema (excess of watery fluid in lungs)
- Retroperitoneal haematoma (accumulation of blood in the abdomen)
- Rhonchi (rattling lung sounds)
- Sleepiness
- Urinary retention
- Vascular graft complication (complication of vessel bypass)
- Vascular graft thrombosis (blood clots in blood vessel bypass)
- Ventricular tachycardia (rapid heartbeats)
- Vessel puncture site haematoma (bruising at site of vessel puncture)
- Vomiting
- Wheezing
- Wound secretion

### **Reporting of side effects**

If you get any side effects, talk to your doctor or surgeon. This includes any possible side effects not listed in this leaflet. You can also report side effects directly via [the national reporting system listed in Appendix V](#). By reporting side effects you can help provide more information on the safety of this medicine.



## **5. How VeraSeal is stored**

VeraSeal must be kept out of the sight and reach of children.

This medicine must not be used after the expiry date which is stated on the label and carton after EXP.

It must be stored and transported frozen at -18 °C or colder. The cold storage chain must not be interrupted until use. Keep the sterilized blister in the outer carton in order to protect from light. Thaw completely before use. Do not refreeze once thawed. After thawing, it can be maintained not more than 7 days at 2 °C - 8 °C or 24 hours not above 25 °C before use.

Once the blister is opened, VeraSeal should be used immediately.

It must not be used if the solutions are cloudy or have deposits.

Discard if the package is damaged.

## **6. Contents of the pack and other information**

### **What VeraSeal contains**

The active substances are:

- Component 1: Human fibrinogen
- Component 2: Human thrombin

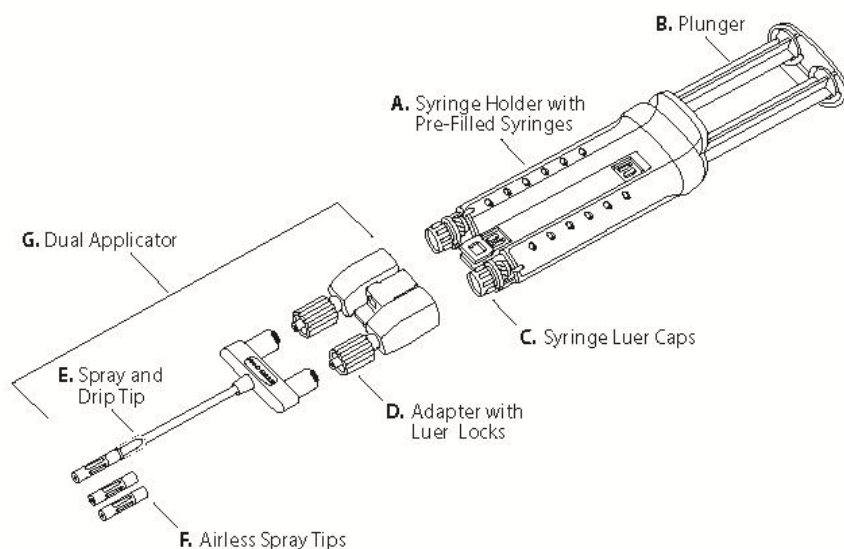
The other ingredients are:

- Component 1: Sodium citrate dihydrated, sodium chloride, arginine, isoleucine, glutamic acid monosodium, water for injections.
- Component 2: Calcium chloride, human albumin, sodium chloride, glycine, water for injections.

### **What VeraSeal looks like and contents of the pack**

VeraSeal is presented as solutions for sealant. It is supplied as a single-use kit containing two pre-filled syringes assembled in a syringe holder. Frozen solutions. After thawing the solutions are clear or slightly opalescent and colourless or pale yellow.

One Dual Applicator with two additional Airless Spray Tips is supplied with the product, for application by spraying or dripping. The Airless Spray Tips are radiopaque. See scheme below.



VeraSeal is available in the following pack sizes:

- VeraSeal 2 ml (containing 1 ml of human fibrinogen and 1 ml of human thrombin)
- VeraSeal 4 ml (containing 2 ml of human fibrinogen and 2 ml of human thrombin)
- VeraSeal 6 ml (containing 3 ml of human fibrinogen and 3 ml of human thrombin)
- VeraSeal 10 ml (containing 5 ml of human fibrinogen and 5 ml of human thrombin)

Not all pack sizes may be marketed.

### Marketing Authorisation Holder and Manufacturer

Instituto Grifols, S.A.  
Can Guasc, 2 - Parets del Vallès  
E-08150 Barcelona - Spain

For any information about this medicine, please contact the local representative of the Marketing Authorisation Holder:

**AT/BE/BG/CY/EE/EL/HR/HU/IE/LV/  
LT/LU/MT/NL/RO/SI/SK/UK(NI)**

Instituto Grifols, S.A.  
Tel: +34 93 571 01 00

**CZ**

Grifols S.R.O.  
Tel: +4202 2223 1415

**DE**

Grifols Deutschland GmbH  
Tel: +49 69 660 593 100

**DK/FI/IS/NO/SE**

Grifols Nordic AB  
Tel: +46 8 441 89 50

**ES**

Johnson & Johnson, S.A.  
Tel: +34 91 722 80 00

**FR**

Johnson & Johnson Medical S.A.S.  
Tél: +33 (0)1 55 00 22 33

**IT**

Grifols Italia S.p.A.  
Tel: +39 050 8755 113

**PL**

Grifols Polska Sp. z o. o.  
Tel: +48 22 378 85 60

**PT**

Grifols Portugal, Lda.  
Tel: +351 219 255 200

**This leaflet was last revised in.**

### **Other sources of information**

Detailed information on this medicine is available on the European Medicines Agency web site:  
<http://www.ema.europa.eu>

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The following information is intended for healthcare professionals only:

### **Posology and method of administration**

The use of VeraSeal is restricted to experienced surgeons who have been trained in the use of this medicinal product.

The volume of VeraSeal to be applied and the frequency of application should always be oriented towards the underlying clinical needs for the patient.

The dose to be applied is governed by variables including, but not limited to, the type of surgical intervention, the size of the area and the mode of intended application, and the number of applications.

Application of the product must be individualised by the treating physician. In clinical trials, the individual doses have typically ranged from 0.3 to 12 ml. For other procedures, larger volumes may be required.

The initial volume of the product to be applied at a chosen anatomic site or target surface area should be sufficient to entirely cover the intended application area. VeraSeal should be applied as a thin layer. The application can be repeated, if necessary.

### **Incompatibilities**

This medicinal product must not be mixed with other medicinal products.

### **Special precautions**

For epilesional use only. Do not apply intravascularly.

Life threatening thromboembolic complications may occur if the preparation is unintentionally applied intravascularly.

When using accessory tips, the instructions for use of the tips should be followed.

Before administration of VeraSeal, care must be taken that the parts of the body outside the desired application area are sufficiently protected (covered) to prevent tissue adhesion at undesired sites.

VeraSeal should be applied as a thin layer. Excessive clot thickness may negatively interfere with the product's efficacy and the wound healing process.

### **Instructions for use**

Read this leaflet before you open the package. Please see pictograms at the end of this leaflet.

## Handling of VeraSeal

VeraSeal comes ready to use in sterilized packages and must be handled using sterile technique in aseptic conditions. Discard damaged packages as re-sterilisation is not possible.

An overview of thawing methods and storage after thawing is provided in Table 1.

**Table 1. Thawing and storage after thawing**

Thawing method	Thawing time per package size		Storage after thawing
	For 2 ml and 4 ml	For 6 ml and 10 ml	
Refrigerator (2 – 8 °C)	Minimum 7 hours	Minimum 10 hours	7 days at 2 - 8 °C (refrigerator) in original package OR 24 hours not above 25 °C in original package
Thawing at 20 - 25 °C	Minimum 70 minutes	Minimum 90 minutes	
Sterile water bath (37 °C) inside sterile field	Minimum 5 minutes. Do not exceed 10 minutes.	Minimum 5 minutes. Do not exceed 10 minutes.	Use immediately during the surgery

- **Preferred thawing methods**

### Refrigerator thawing

1. Remove carton from freezer and place it in the refrigerator for thawing at 2 – 8 °C  
a minimum of 7 hours for the 2 ml and the 4 ml package sizes  
a minimum of 10 hours for the 6 ml and the 10 ml package sizes

After thawing, it is not necessary to warm the product for its use.

After thawing, the solutions must be clear to slightly opalescent and colourless to pale yellow. Do not use solutions that are cloudy or have deposits.

### Thawing at 20 °C - 25 °C

Remove carton from freezer, open it and take out the two blisters.

Place the blister containing the Dual Applicator on a surface at 20 °C - 25 °C until the fibrin sealant is ready to use.

Thaw blister with VeraSeal pre-filled syringes at 20 °C - 25 °C using the following steps:

1. Place the blister containing the syringe holder with pre-filled syringes on a surface at 20 °C - 25 °C  
a minimum of 70 minutes for the 2 ml and the 4 ml package sizes  
a minimum of 90 minutes for the 6 ml and the 10 ml package sizes

After thawing, it is not necessary to warm the product for its use.

After thawing the solutions must be clear to slightly opalescent and colourless to pale yellow. Solutions that are cloudy or have deposits should not be used.

### *Post-thawing storage*

After thawing, the kit containing the VeraSeal syringe holder with pre-filled syringes and Dual Applicator can be stored before use for not more than 7 days in the refrigerator at 2 - 8 °C or

24 hours not above 25 °C if it remains sealed in the original packaging. Once the blisters are opened, use VeraSeal immediately and discard any unused contents.

Once thawed, do not refreeze.

#### *Transferring instructions*

1. After thawing, remove the blister from the surface at 20 °C - 25 °C or from the refrigerator at 2 °C - 8 °C.
2. Open the blister and confirm that the VeraSeal pre-filled syringes are completely thawed. Make the VeraSeal syringe holder with pre-filled syringes available to a second person for transfer to the sterile field. The outside of the blister should not come in contact with the sterile field. See Figure 1.

- **Sterile Water Bath (Quick Thawing)**

Remove carton from freezer, open it and take out the two blisters.

Place the blister containing the Dual Applicator on a surface at 20 °C - 25 °C until the fibrin sealant is ready to use.

Thaw VeraSeal pre-filled syringes inside the sterile field in a sterile thermostatic water bath at a temperature of 37±2 °C using the following steps:

NOTE: Once the VeraSeal blisters are opened, use the product immediately. Use sterile technique to avoid the possibility of contamination due to improper handling, and follow the steps below accurately. Do not remove the syringe luer cap until thawing is complete and the Dual Applicator is ready to be attached.

1. Open the blister and make the VeraSeal syringe holder with pre-filled syringes available to a second person for transfer to the sterile field. The outside of the blister should not come in contact with the sterile field. See Figure 1.
2. Place the syringe holder with pre-filled syringes directly into the sterile water bath ensuring that it is completely immersed in the water. See Figure 2.
3. At 37 °C, the time needed is approximately 5 minutes for the 2 ml, 4 ml, 6 ml, and 10 ml package sizes, but must not be left at this temperature for longer than 10 minutes. The temperature of the water bath must not exceed 39 °C.
4. Dry the syringe holder with pre-filled syringes after thawing, using a sterile surgical gauze.

Confirm that the VeraSeal pre-filled syringes are completely thawed. After thawing, the solutions must be clear to slightly opalescent and colorless to pale yellow. Do not use solutions that are cloudy or have deposits.

Use VeraSeal immediately and discard any unused contents.

- **Connection instructions**

1. Open the blister and make the VeraSeal Dual Applicator and two additional Airless Spray Tips available to a second person for transfer to the sterile field. The outside of the blister should not come in contact with the sterile field.
2. Hold the VeraSeal syringe holder with syringe luer caps pointed upward. See Figure 3.
3. Unscrew and discard the syringe luer cap of both fibrinogen and thrombin syringes. See Figure 3.
4. Hold the syringe holder with the luer caps pointed upward. To remove air bubbles from syringes, strike gently the side of the syringe holder one or two times while keeping the syringe holder in an upright position and lightly depress the plunger to eject air. See Figure 4.

5. Attach the Dual Applicator. See Figure 5.  
NOTE: Do not depress plunger during attachment or prior to intended use because the two biologic components will pre-mix in the Airless Spray Tip, forming a fibrin clot that prevents dispensing. See Figure 6.
6. Tighten luer locks and ensure the Dual Applicator is firmly attached. The device is now ready to use.

- **Administration**

Apply VeraSeal using the syringe holder and plunger supplied.

Apply VeraSeal using the Dual Applicator provided with the product. Other CE-marked applicator tips (including open surgery and laparoscopic use devices) intended for specific use with VeraSeal may also be used. When using the provided Dual Applicator, follow the connection instructions described above. When using other applicator tips, follow the instructions for use that are provided with the applicator tips.

Application by spraying

1. Grasp and bend the Dual Applicator to the desired position. Tip will retain its shape.
2. Position the Airless Spray Tip at least 2 cm away from the target tissue. Apply firm even pressure to the plunger to spray the fibrin sealant. Increase distance accordingly to achieve desired coverage of the target area.
3. If expression is stopped for any reason, change the Airless Spray Tip prior to resuming application since a clot may form inside the Airless Spray Tip. To change the Airless Spray Tip, remove the device from the patient and unscrew the used Airless Spray Tip. See Figure 7. Place the used Airless Spray Tip away from the spare Airless Spray Tips. Wipe the end of the applicator using dry or moist sterile surgical gauze. Then, connect a new Airless Spray Tip provided in the package and ensure it is firmly connected before use.

NOTE: Red indicator will not be visible if Airless Spray Tip is properly connected. See Figure 8.

NOTE: Do not continue pushing the plunger in an attempt to clear the fibrin clot within the Airless Spray Tip; otherwise the applicator may become unusable.

NOTE: Do not trim the Dual Applicator to avoid exposing internal wire.

Application by dripping

1. Remove the Airless Spray Tip portion of the spray and drip tip by unscrewing the Airless Spray Tip. See Figure 7.
2. Grasp and bend the drip tip to the desired position. Tip will retain its shape.
3. During dripping, keep the end of the drip tip as close to the tissue surface as possible without touching the tissue during application.
4. Apply individual drops to the surface area to be treated. To prevent uncontrolled clotting, allow the drops to separate from each other and from the end of the drip tip.  
NOTE: Do not reconnect a used drip tip after it has been removed from the adapter; otherwise a clot may form inside the drip tip and the applicator may become unusable.

- **Disposal**

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.



Figure 1

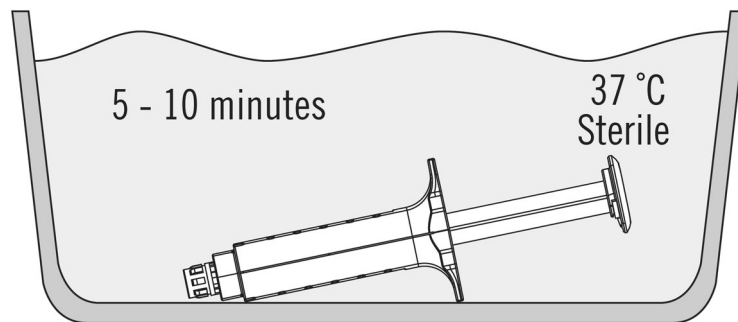


Figure 2

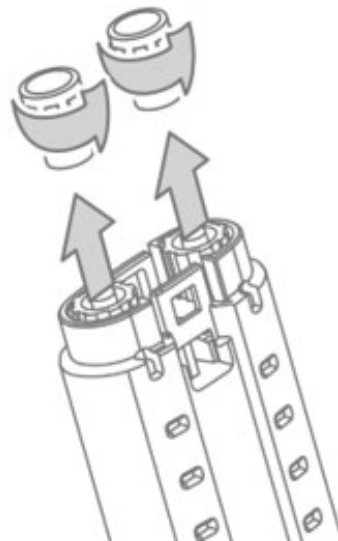


Figure 3

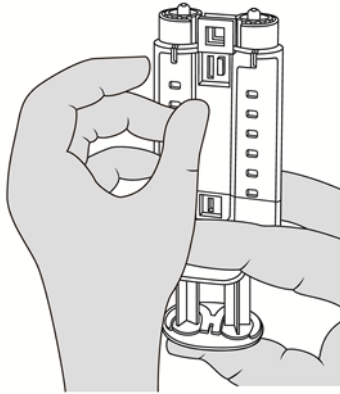


Figure 4

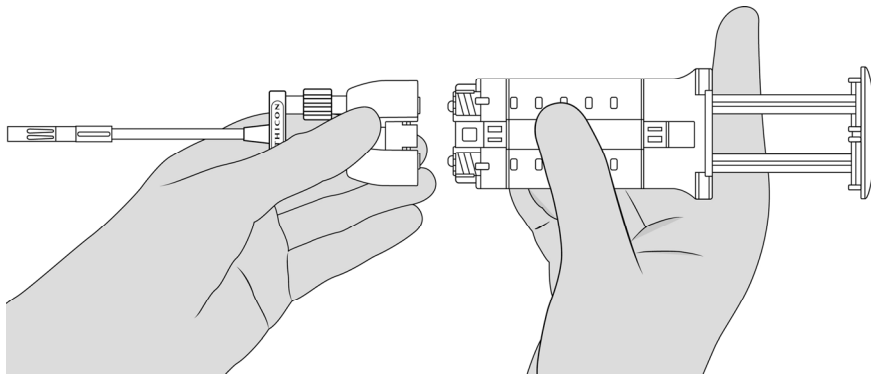


Figure 5

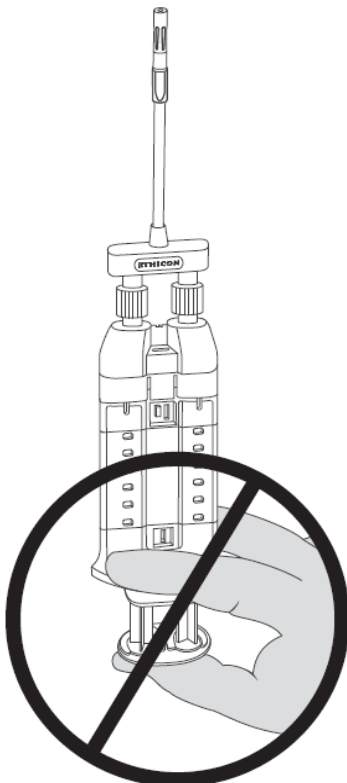


Figure 6



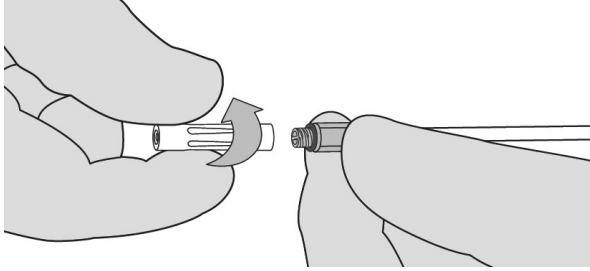


Figure 7

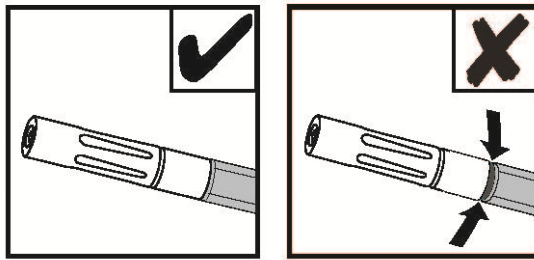


Figure 8