

CELOX™

Controls Life-Threatening Bleeding Fast

CELOX™

CELOX-A™

CELOX™ GAUZE

CELOX™
TRAUMA GAUZE



“On the battlefield, hemorrhage from wounds remains the leading cause of mortality, accounting for 50% of all deaths. Hemorrhage is also the second leading cause of mortality among injured civilians, accounting for 39% of civilian trauma deaths.”

– The United States Army
Institute of Surgical Research

SAM MEDICAL
PRODUCTS®

About CELOX™

CELOX™ is a high performance chitosan-based hemostatic designed to stop lethal bleeding fast. It is easy to use, extremely effective, and safe (is a CE Marked Class III Medical Device). CELOX comes in four different delivery systems, providing a commitment to aiding the caregiver in treating a variety of difficult and deep wounds. It also does not generate heat and will not burn the casualty or caregiver.

CELOX works independently of the body's normal clotting processes. Its clotting ability has been proven to work in hypothermic conditions and in the presence of common anticoagulants such as Coumadin and Heparin.

How CELOX™ Works

When placed directly into a bleeding wound and subjected to pressure, the positively charged CELOX cross-links with negatively charged red blood cells, forming a sticky pseudo clot that blocks blood flow. This clot sticks well to moist tissue to plug the bleeding site.



CELOX does not set off the normal clotting cascade, it only clots the blood it comes directly into contact with. CELOX also does not set off a blood clotting response which would lead to clots being formed at a distance to the product.

Chitosan

CELOX is made of chitosan, a compound derived from shrimp shells. Chitosan has proven antimicrobial properties and is not procoagulant. Chitosan is broken down and absorbed through normal metabolic pathways and has an extensive history of use in vascular closure and in human cardiac surgery.

CELOX has a three year history of use in emergency and military first aid with no reported incidents. An external review was commissioned on the safety of CELOX's ingredients in the body and concluded that CELOX was safe to use internally in surgery and that residual quantities presented no risk.

Why CELOX™

- Proven to control arterial bleeding within minutes
- Works in hypothermic conditions
- FDA cleared to work on anticoagulated blood
- No heat – no burning
- Sterile, waterproof packaging
- Easy to irrigate from wound
- Applied using basic first aid skills

“Chitosans have widespread applications, have been widely studied in the biomedical field, and are highly biocompatible. Celox [derived from Chitosan] itself, has FDA [clearance] (ie. 501(k)), Class III CE Mark, and a NATO stock number as a hemostatic agent in the emergency and battlefield settings in which anecdotal reports of its use have been highly encouraging. This is supported by in vivo experimental work showing 100% effectiveness in an industry standard model of lethal groin hemorrhage in swine.”

An excerpt from:

Millner R, MD; Lockhart A; Bird H; Alexiou, PhD. A New Hemostatic Agent: Initial Life-Saving Experience With Celox (Chitosan) in Cardiothoracic Surgery. The Annals of Thoracic Surgery 2009; 87:e13-e14.

Full CELOX Safety Study available online at: www.sammedical.com/celox



CELOX™

CE Approved

The original comprised of absorbent hemostatic granules

The "original" with absorbent hemostatic granules that can be poured directly into a wound. This presentation provides the most diverse set of uses.

Available Sizes

- CELOX™ 15g Pouch
- CELOX™ 15g CE Pouch
- CELOX™ 35g Pouch
- CELOX™ 35g CE Pouch

Specs

- Package Dimensions:
15g: 3.75in x 5.5in
35g: 5in x 7.5in
- Shelf Life: 3 years



CELOX™-A

CE Approved

Applicator delivery system for CELOX agent to deep penetrating wounds

The CELOX-A applicator and plunger delivery system makes it possible for the hemostatic agent to reach deep into small penetrating wounds, getting straight to the source of the bleeding.

Available Sizes

- 6g (0.2oz)
- Applicator/Plunger Set

Specs

- Package Dimensions:
4in x 8.875in
- Shelf Life: 3 years



CELOX™ GAUZE

Rolled gauze coated with CELOX hemostatic agent

CELOX GAUZE combines our ground breaking CELOX agent with a fabric dressing, allowing for easy and precise placement.

Available Sizes

- One Gauze Strip:
3in x 10ft (7.6cm x 3.0m)

Specs

- Package Dimensions:
7in x 4.3in
- Shelf Life: 3 years



CELOX™ TRAUMA GAUZE

Dual-purpose 100% hemostatic gauze for the control of bleeding and treatment of burns

Our latest CELOX product is a dual-purpose hemostatic gauze used to control traumatic bleeding and cool and protect 1st and 2nd degree burns.

Available Sizes

- One Gauze Strip:
3in x 6ft (7.6cm x 1.8m)

Specs

- Package Dimensions:
7.1in x 4.3in
- Shelf Life: 3 years



Testimonials

Our crew was dispatched to a large caliber GSW to the chest. After isolating the right lung, both entrance and exit wounds were sealed using the Celox product. The patient was able to maintain excellent vitals through-out the transport to the receiving hospital. All staff members involved commented on the lack of blood loss present for such a significant wound. After seeing the effectiveness of this product, I recommend using Celox as the first-line in hemorrhage control agent.

Nicholas Puff, Paramedic

Celox is without a doubt the most exciting hemostatic dressing I have had the opportunity to work with. It is extremely easy to use, almost foolproof. I believe every soldier, not just every medic, should carry Celox in their kit.

Chris D., US Army

I had the opportunity to use Celox for unstoppable atraumatic bleeding from an external tumor. I stripped the existing bandaging off the area, applied the Celox all the way around and over the tumor, then placed trauma dressings and applied pressure with Coban. During the transport to the hospital, no further bleeding was noted. Once at the hospital, most of the Celox was removed, but there was no blood loss. The ED staff was very impressed, as was I. This call would have definitely turned out differently without Celox. What a wonderful product!

Eric Augustus, Critical Care Paramedic

Read more CELOX testimonials online at:
www.sammedical.com/celox





CELOX Instructional videos available at:
www.sammedical.com

Videos are also available on



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Part Number	Description	NSN Numbers
C42859-15	CELOX™ 15g Pouch – White	6510-47-000-7244
C42859-35	CELOX™ 35g Pouch – White	6510-01-549-5980
CE42859-15	CELOX™ 15g CE Pouch – White	
CE42859-35	CELOX™ 35g CE Pouch – White	
C42859-35MIL	CELOX™ 35g Pouch – Olive Drab	
C42900-A	CELOX™-A – 6g (0.2oz) Applicator/Plunger Set	
C43000	CELOX™ Trauma Gauze – 3in x 6ft (7.6cm x 1.8m)	
C12857	CELOX™ GAUZE Roll – 3in x 10ft (7.6cm x 3.0m)	

Publications

Millner R, Lockhart AS, Bird H, Alexiou C. **A New Hemostatic Agent: Initial Life-Saving Experience With Celox (Chitosan) in Cardiothoracic Surgery.** *The Annals of Thoracic Surgery* 2009;87:e13-e14.

Hildwine F. **JEMS HotProducts 2009.** *JEMS Magazine.* June 2009:53.

Littlejohn LF, Devlin J, Johnson A, Kircher S. **Comparison of four hemostatic agents, CELOX™-A, ChitoFlex®, WoundStat™ and Combat Gauze™, versus standard gauze dressing in control of extremity hemorrhage in a limited access swine model of penetrating combat trauma.** Presented at the Special Operations Medical Association 21st Annual Conference. 2008.

Kozen BG, Kircher SJ, Henao J, Godinez FS, Johnson AS. **An Alternative Hemostatic Dressing: Comparison of CELOX, HemCon, and QuikClot.** *Academic Emergency Medicine* 2008;15(1):74-81.

Dickinson E. **Clotting Agents: Here's the scoop on these lifesaving tools.** *Law Officer.* March 2008:32-36.

Smith M. **EMS Expo 2007: Top Product Picks.** *EMS Magazine.* January 2008:36-45.

Khemsurov M. **The Seafood Bandage: A new powder made from shrimp stops serious bleeding-fast.** *Popular Science.* July 2006:41.

Awards

CELOX-A was an EMS Expo 2007 Top Product Pick.



About SAM Medical Products®

SAM Medical Products is a developer and manufacturer of innovative medical products used for emergency, military, and hospital care. Our products include the widely used SAM Splint, SAM Pelvic Sling, Soft Shell Splint, CELOX line of hemostatic agents, BursaMed line of shear and friction relieving dressings, and Blist-O-Ban blister prevention bandages. For more than 25 years, SAM Medical Products has represented innovation and quality to the medical professional.

More information about SAM Medical Products® can be found on the company's website at: www.sammedical.com.

SAM MEDICAL
 PRODUCTS®

customerservice@sammedical.com
 P.O. Box 3270
 Tualatin, OR 97062 USA
 503.639.5474 (USA) Tele
 800.818.4726 (USA) Toll
 503.639.5425 (USA) Fax