



**MANUEL D'UTILISATION / USER GUIDE  
BEDIENUNGSANLEITUNG**

**Helite**

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Airbag certifié / Certified airbag  
Zertifizierter Airbag



**THANK YOU  
FOR YOUR  
PURCHASE**

To get the most out of your B'Safe airbag, please read this manual carefully.

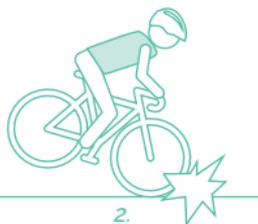
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## General information

### THE CONCEPT



1.

*Movement analysis*

2.

*Accident detection*

3.

*Airbag inflation: 80 ms*

4.

*Shock absorption  
Person protected*

The B'Safe vest was created to protect urban cyclists in their daily ride.

When an accident or a fall is detected, the airbag inflates automatically to protect the thorax, neck and spine and ensures an optimal protection before impact.



### ATTENTION

*B'Safe is not adapted for the following uses: mountain bike, bicycle acrobatics, BMX, scooter, motorcycle, running, segways, electric unicycle and self-balancing board.*

## THE B'SAFE AIRBAG

The B'Safe package contains: an airbag vest, a saddle sensor, a CO2 cartridge, a USB cable and a little magnet.



**B'Safe vest:** It contains the airbag, a CDU (Crash Detection Unit) sensor which analyzes the situation in real time (cyclist's motion, position and speed) and detects accidents.



**SDU saddle sensor (Shock Detection Unit):** It detects shocks on the bicycle. Discreet and autonomous (life span around 5 years), it should be installed under the saddle of the bike (see page 43).



**Cartridge:** It inflates the airbag in the event of a fall or an accident. It is for single use only and must be replaced after each inflation.



**USB Cable:** To recharge the vest battery (see page 40).  
**CAUTION:** *only the USB cable is included, you can plug it in any standard USB charger.*



**Magnet:** It should be used for the first use of the vest (see page 32 Vest and sensor pairing) and also for periodic control.

## First use

### STEP 1: PAIR THE SADDLE SENSOR WITH THE VEST

Before using your B'Safe vest, it is necessary to pair (which means associate) the vest with the saddle sensor. To do so, you need the vest, the saddle sensor and the magnet. **Make sure the cartridge is connected to the vest.**



**1. Switch ON** the vest by pressing quickly 3 times the button . The LED flashes green and you hear a «beep».



**2. Press the button  for 3 seconds** until the LED turns blue. Release the button and go to the next step.



**3. Place the magnet on the saddle sensor** over the round sign. Please note that you only have 30 seconds to effect this procedure.

- If you hear a **LONG BEEP**: the vest and the saddle sensor are paired.
- If you hear a **SHORT BEEP**: the vest and the saddle sensor have already been paired.

## GOOD TO KNOW

- It is possible to pair several "saddle sensors" with one vest (5 maximum).

*For example, if you have several bicycles, the pairing process has to be done for each bike.*

- It is possible to pair as many vests as you like with one saddle sensor.
- To check if your vest has recognized the saddle sensor, you just need to place the magnet on the saddle sensor. A short "beep" on the vest indicates that it is recognizing the sensor and that they are connected.

## STEP 2: INSTALL THE SADDLE SENSOR ON THE BICYCLE

### 1. Choose the right bracelet size



Try the different sizes.

The right size has to be adjusted to the bicycle frame. The big screw has to pass through.

### 2. Assemble the sensor and the bracelet

- Install the sensor on the bracelet by sliding it inside. The two arrows have to be aligned.



- When the sensor is aligned, screw in the small screw to fix the two elements.

*This step is optional if you want to be able to take off the sensor from the bracelet.*



### 3. Place the sensor on the bicycle



Make sure to thoroughly clean your bicycle frame before installing the sensor.

- Place the sensor on the bicycle frame on the seatpost or on the seat tube. Make sure that nothing will impact the sensor during the installation (bike lock, water bottle, etc.).



- Screw in the big screw.

Do not tighten too much. You can stop to screw when it gets difficult to turn the bracelet with your hand.

### STEP 3: WEAR THE VEST

Put on the vest and close the zipper to the top to ensure that you are well protected.



## Safety Precautions

**! PRECAUTIONS** Failure to follow the instructions could lead to malfunction or reduce the effectiveness of the airbag system.

- Once used, the CO<sub>2</sub> cartridge must be replaced with a new Helite cartridge of the same capacity (50 cc, 60 cc, or 100 cc)
- The vest should be stored carefully when not used. Keep it away from high temperatures (over 45°C) and humidity.
- Do not wash the vest in a washing machine nor immerse the vest in the water.
- Keep out of reach of children.
- Do not sew or add any pieces on the vest, it could reduce the effectiveness of the airbag system.
- Do not wear clothes too tight over the vest (for example a bag or a coat).
- Do not remove any part of the airbag system or of the cartridge.
- The vest is water repellent and not waterproof. In case of heavy rain, it is recommended to use a rain cape over the vest.
- Do not put anything fragile, sharp or pointed in the pockets of the vest. This could damage the airbag.

## Technical description

### THE ELECTRONIC SYSTEM (SENSORS AND ALGORITHM)



The system uses an algorithm and two sensors which are able to distinguish cyclists' common movements in an accident. The CDU sensor (crash detection unit), located inside the vest, analyzes cyclists' motion in real time and the SDU saddle sensor detects the shock. When an abnormal move or a shock is detected both sensors communicate with each other and analyze the situation.

**If an accident is detected, the airbag inflates in 80 ms and the cyclist is protected.**

## SHOCK AND ACCIDENT DETECTION

The electronic system detects different accident situations:

- **During the ride (faster than 11km/h)**
  - Bicycles that hit or are being hit by a significant obstacle.
  - Loss of control of the bike (without shock on the bike).
- **Bicycle at a standstill**
  - Impact on the bicycle and the cyclist is ejected from the bike.



In some accidents, if the movements are too slow, or the amplitude is too weak, it is possible that the detection does not work on time or not at all.

Accident detection can be affected by:

- absence of GPS signal (tunnel, underground parking, ...)
- low speed (except in case of a shock on the bike)

## THE AIRBAG PROTECTION

The vest was designed to ensure an optimal protection for 3 vital areas of the body: the thorax, the neck and the back.

The airbags are made and tested in Helite's workshop in Dijon. They are made of strong polyamide fabric which is highly resistant and very effective to absorb shocks. After each inflation, the airbag automatically deflates slowly and can be used again



## BATTERY

**Saddle sensor:** has an autonomy of around 5 years.

To check if the sensor is still activated you can place the magnet over the sensor:

- **Green LED on the saddle sensor > Battery OK**
- **Red LED on the saddle sensor > Battery is low**, you must change the saddle sensor.

**The vest** has 25h of autonomy. The system is totally automatic and energy saving. The vest should be recharged with the USB cable included in the B'Safe package. We recommend to recharge the vest once a week. (see page 40 How to recharge B'Safe?).

## THE CO<sub>2</sub> CARTRIDGE

B'Safe is sold with a new and usable cartridge ready to work.

The cartridge is for single use only and must be replaced after each inflation. We recommend to store 1 or 2 cartridges and keep them available in the event of an accident.

It is possible to order CO<sub>2</sub> cartridges online on our website [www.helite.com](http://www.helite.com) or at one of our dealers.



### PRECAUTIONS

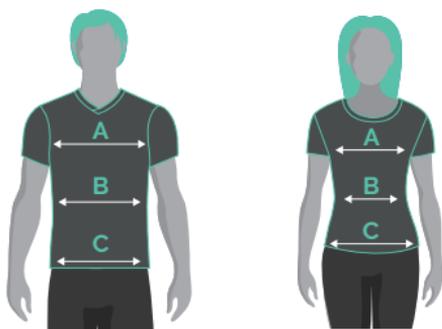
*The CO<sub>2</sub> cartridges are for single use only and must be replaced after each inflation.*

- *The CO<sub>2</sub> cartridge must be a Helite branded cartridge ( GG 50cc / GG 60cc / GG 100 cc). Do not use any other cartridge to replace the used one.*
- *The cartridge must be entirely screwed. Only connect the cartridge after you have entirely screwed it in the black cylinder.*
- *The cartridge should be stored and used in temperatures below 45°C. Do not leave full cartridges in the car in high temperatures for example.*
- *Never let the cartridge fall down.*
- *If rust or other corrosive marks appear on the outer surface of the cartridge, change it immediately and discard the cartridge.*
- *Never cut the cartridge, do not throw into fire.*
- *Keep out of children's reach.*

## SIZE CHART & COLORS

The vest exists in two colors: Black and Yellow Hi-Vis (high visibility).

It is available in 4 different sizes:

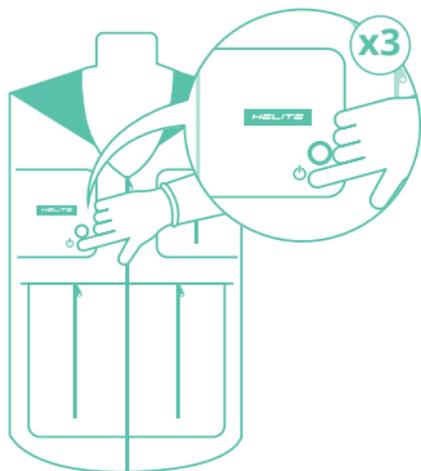


SIZE IN INCHES	S	M	L	XL
<b>A - Chest line</b> <i>At the widest level</i>	34-37	37-40	40-43	43-46
<b>B - Waist line</b> <i>At the narrowest level</i>	28-31	31-35	35-38	38-40
<b>C - Pelvis line</b> <i>At the widest level</i>	37-43	43-46	46-50	50-52
<b>Cartridge &amp; protection volume</b>	50cc 14 liters	60cc 17 liters	60cc 17 liters	100cc 28 liters

## Daily use

### THE VEST

The vest is 100% autonomous. Once it switches ON, the electronic system works automatically and analyzes the movements in real time.



#### SWITCH ON / OFF THE VEST

The vest can be switched ON / OFF by pressing quickly 3 times the button .

We recommend to switch OFF the vest when you are not using your bike.

However, there are **situations in which you must switch off the vest.** (see page 41).



Reminder: during your ride, B'Safe is only operational when

- the vest is switched ON
- the zipper of the vest is closed to the top to assure you an optimal protection

## ● WEARING B'SAFE

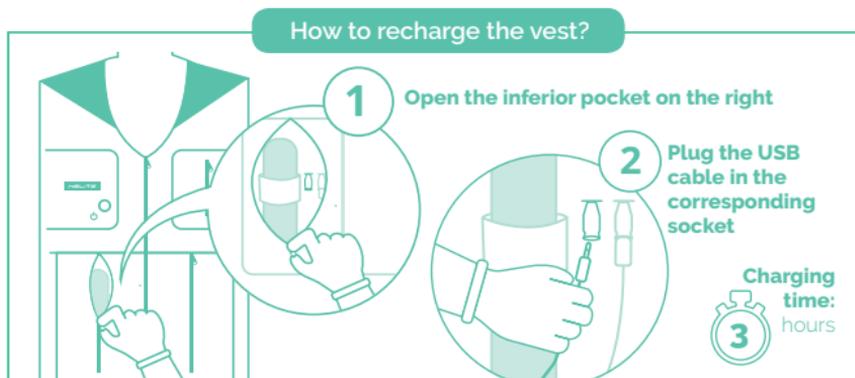
We recommend to wear B'Safe over your cycling equipment (vest, shirt, etc.) However, it is possible to wear a backpack or a rain cape over B'Safe if they are not too tight and therefore do not prevent the airbag from inflating correctly.

## ● RECHARGING THE VEST

The vest has an autonomy of 25H when it is switched ON (about one week of use). *Please note that even if the vest is switched OFF it will use a bit of energy.*

 **Green LED: the system is operational**  
You can use the vest.

 **Orange LED: Low battery**  
You need to recharge the vest.



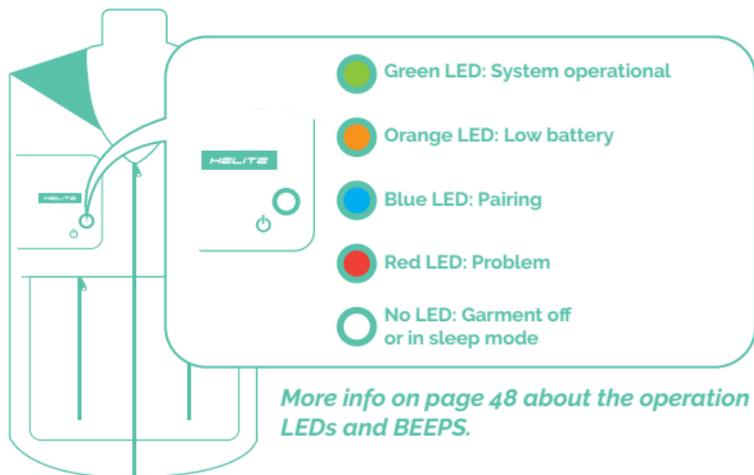
 **To recharge B'Safe, you must use the Helite USB cable included with B'Safe. Only the cable is included, you have to plug it afterwards into a standard USB charger ( 5 Volt USB port on your computer or mobile phone charger).**

During the charging, the LED will remain orange. The charging time is around 3 hours with the USB cable included in the B'Safe package. As soon as the LED turns green the charging is completed and you can reuse the vest.

**Do not forget to close the pocket.**

## ● VEST LED DESCRIPTION

To know if the system is working properly, here are the 4 LED colors used and their different significations:



## ● WHEN SHOULD YOU SWITCH OFF B'SAFE?

The vest can be switched on or off. It is not necessary to switch off the vest every day. However, **there are some situations in which you must switch off the vest:**

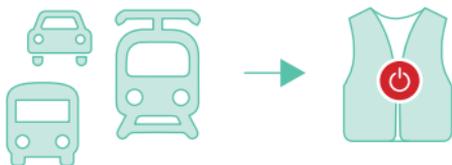
- When you use different means of transport with your vest (car, metro, tram, train, bus, etc.)
- During a long storage time (in winter for example).



**REMINDER:** to switch off the vest, you need to press the button  3 times.

## ● TRAVELLING WITH B'SAFE

### - BUS, TRAIN, CAR



No specific restrictions.  
Do not forget to switch OFF the system while using these means of transport.

### - PLANE



You may encounter some difficulties with the security service regarding the gas cartridges used to inflate your vest.  
From a legal point of view (IATA regulations), you are authorized to travel by airplane with 2 gas cartridges (with a volume of less than 200cc), in the cabin or in the hold.

However, even if it is legally allowed, it is possible that the security service or the airline will refuse you to board the aircraft with the gas cartridge.

We advise you to print the IATA regulation (available on [helite.com](http://helite.com) «FAQ») and to show it during the control if you are asked for further explanation.

In any case, the security department of the airport and the airline will make the final decision whether to take your equipment on board or not.

**On the plane, you always have to turn off your garment and unplug the gas cartridge.**

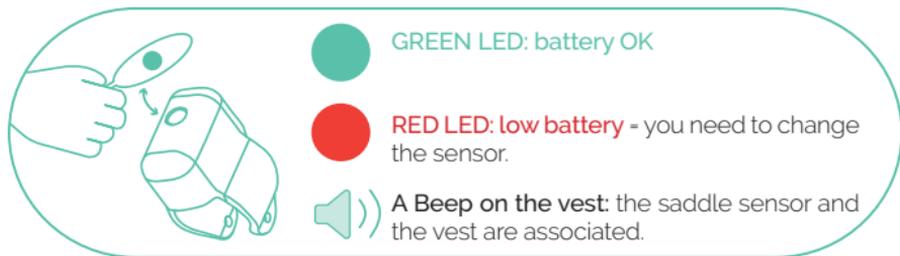
## SDU SADDLE SENSOR

Once installed and correctly paired (see page 32), the saddle sensor is totally autonomous (about 5 years without charging).

### ● SADDLE SENSOR WORKING STATE

However, we recommend to check from time to time (once a month) that the saddle sensor is working properly.

To do so, you need to place the magnet over the round sign of the saddle sensor to check that the saddle sensor is still activated and that it is still paired with the vest. *Please note that this check should be done in an environment of more than 10°C.*



### GOOD TO KNOW

To delete all the sensors that are associated with the vest, press the button  for 8 seconds.

## PRECAUTIONS BEFORE USING THE AIRBAG SYSTEM

 **If one of these conditions is not validated, you may not be protected properly.**

- the vest is adjusted correctly to your size
- the CO<sub>2</sub> cartridge is new and connected.
- the vest is zipped above the mark **Airbag Activation**.
- the vest is charged (green LED on).
- the saddle sensor is paired with the vest.
- the green LED is ON and flashes.

## Reuse B'Safe after an inflation

After an inflation, it is possible to reuse the vest. There are only a few steps to follow to reactivate your airbag system. It is really easy and can be done by yourself.

1. Take off the vest.

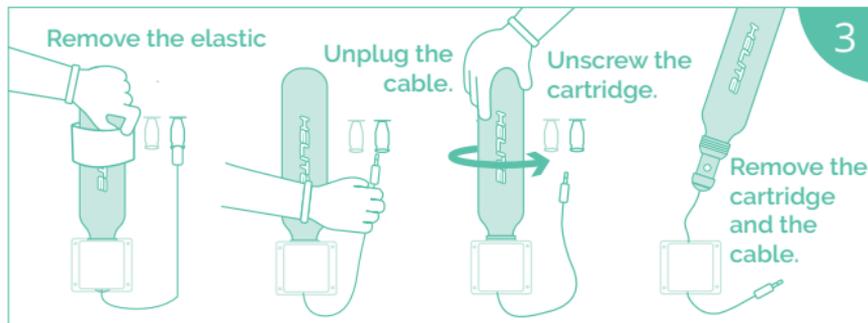


2. Open the pocket on the right.

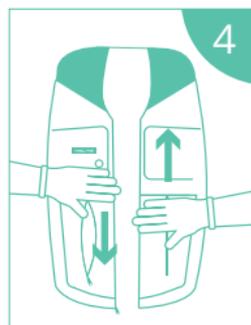


For the steps 2 to 5 the vest must always stay open or switched off.

3. Remove the empty cartridge.



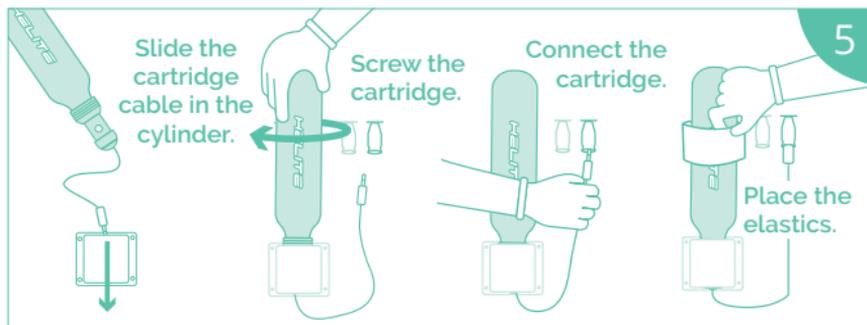
4. Remove the air inside the vest by pushing with your 2 hands.



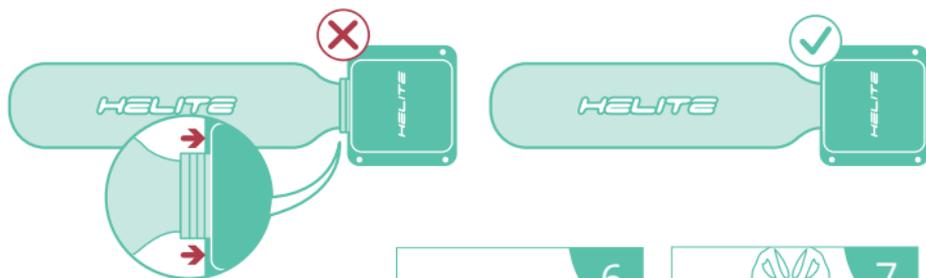
## 5. Install the new cartridge.

Do not damage the cable while screwing the cartridge.

Only connect the cartridge once it is entirely screwed (see example on the scheme below).

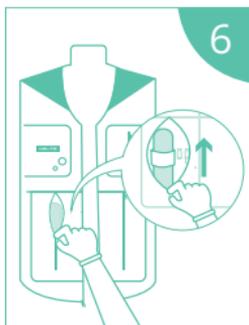


The cartridge must be screwed entirely. Do not apply too much pressure when screwing in the cartridge.



## 6. Close the pocket.

## 7. The vest can be reused.



## PRECAUTIONS AFTER AIRBAG INFLATION



**After inflation, the airbag automatically deflates slowly.**

A fast deflation (less than 5 sec) may indicate an external damage to the airbag garment.

If you notice any mark on the garment that may lead to malfunction, contact us or take the airbag system to an authorised dealer for servicing. Please note that in the event of serious damage to the airbag garment, it may not be possible to repair it.

Before reusing the airbag you must check the following points:

- the cartridge is replaced by a new Helite cartridge of the same capacity.
- the airbag is deflated.
- the new cartridge is connected with the vest.

Other precautions before use:

- the vest is adjusted correctly to your size.
- the vest is zipped up to the top.
- the vest is charged (green LED on).
- the saddle sensor is paired with the vest.
- the green LED is ON and flashes.

## Maintenance

### WASHING

The vest is not washable neither in washing machine nor by hand washing. Washing the vest could seriously damage the electronic system.



If you want to wash your garment, we recommend using a sponge or brush with warm soapy water.

### CARTRIDGE

The cartridge comes with a 10 year warranty. The CO<sub>2</sub> cartridges have a long life span but we recommend to check them annually. The check consists in weighing your cartridge on a scale and making sure that the weight is approximately (+/- 3g) equivalent to the weight written on your cartridge.

*Examples:*

*A cartridge of 50 CC weighs 182 g: its weight should be between 179 g and 185 g.*

*A cartridge of 60 CC weighs 212 g: its weight should be between 209 g and 215 g.*

*A cartridge of 100 CC weighs 298 g: its weight should be between 295 g and 301 g.*

### STORAGE

Follow the guidelines below to enjoy a long and reliable use of your airbag garment when stored:

- Avoid high temperatures (direct sunlight, if left in a vehicle, near a heat source or flame).
- Do not cover with anything heavy.
- Do not fold or roll. It is best to store the vest on a hanger.
- Do not close the vest completely.
- Do not leave within reach of rodents or other animals.
- Keep out of children's reach.

### RECYCLING

We recycle the empty CO<sub>2</sub> cartridges. Put them aside and send them to the following address or return them to one of our dealers.

**HELITE - 1 rue de la petite fin.  
21121 Fontaine Lès Dijon, FRANCE**



## Operation & malfunction

Possible operations and malfunctions of the B'Safe vest regarding the B'Safe airbag:



### System operational

Green flashing LED / No Beep

> You can cycle.



### Low battery

Orange flashing LED / 4 Beeps during airbag activation or deactivation

> You need to recharge the vest. You can still ride your bike for 2 hours.



### Battery charging

Orange LED / No Beep

> Wait until the end of the charging (Green LED).



### Charging completed

Green LED / No Beep when the charger is still connected

> Unplug the charger.



### Pairing in progress

Blue LED / 1 Beep every 5 sec (during 30 sec)

> You have 30 sec to pair the saddle sensor.



### Success of pairing

Blue LED / 1 Beep of 2 sec (2 short beeps when the sensor is already recognized)

> The vest and the saddle sensor are paired.



### Pairing failed

Red LED / 4 Beeps (or too many sensors recognized by the vest)

> Restart the pairing.



### Disconnected Cartridge

Red LED / 1 Beep every second (while the cartridge is not connected)

> Plug the cartridge in.

If you notice any other malfunctions, please contact your dealer or our after sales service via email [sav@helite.com](mailto:sav@helite.com) or by phone +33 3 80 35 48 26.



## Warranty & after sales services

### WARRANTY

The vest comes with a 2 year warranty. You can benefit from an extended 2 year warranty if you register your vest online within 3 months after your purchase on: **my.helite.com**.

### REPLACEMENT

If you encounter any of the problems described below, consult a dealer or contact our after sales service.

#### Problems:

- If the airbag garment or the interior materials (fabric, sheaths) are torn, worn out or the internal bag is visible.
- If any breaks, cracks or corrosion appear on the trigger mechanism or on the gas cartridge.
- The system does not switch ON although the vest is charged and activated.
- In the event of deterioration or significant fading of the materials.

#### After sales service:

Contact us via mail: [sav@helite.com](mailto:sav@helite.com)

Or by phone: **+33 3 80 35 48 26**

## Disclaimer

- This product is "Certified CE (compliance with EU Regulation 2016/425) by ALIENOR CERTIFICATION, Zone du Sanital, 21 Rue Albert Einstein CHATELLERAULT-France-organisme notifié n° 2754"
- Please note that no body protector can prevent death or serious injuries in certain accidents.
- Helite and its distributors will be held in no way responsible for any bodily injury or death, and/or property damage that may occur while using any Helite airbag garment.
- Helite and its distributors accept no responsibility or liability for any improper installation and usage of B'Safe.
- Helite and its distributors cannot be held responsible should the airbag garment not inflate
- In some cases, the minimum speed to detect the accident is 11 km/h.
- The vest does not cover 100% of risks during an accident.
- The vest does not detect 100% of accidents.
- The vest does not protect from all upper body injuries.
- B'Safe does not protect parts outside the airbag (the coccyx for example).
- Any modification, misuse or improper storage of the device may cause malfunction.
- This PPE does not contain any allergenic substances. It does not cause any irritation or discomfort to the user.



CE



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www.helite.com