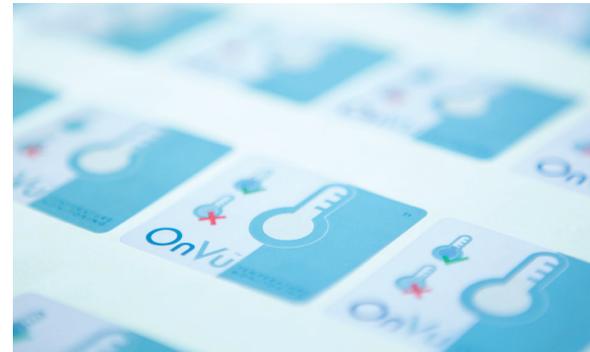


# OnVu™

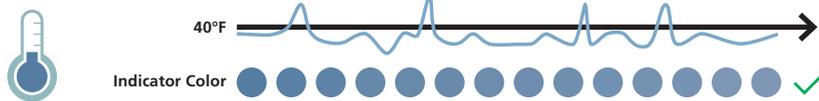
## Your cold chain partner



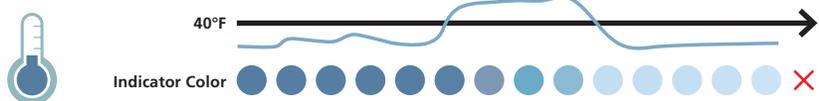
OnVu™ is a simple, intelligent indicator technology that alerts you, at-a-glance, when food products have been exposed to unsafe temperatures for too long. OnVu™ monitors the cold chain of both fresh and frozen food from production to retail.



Normal cold chain



Broken cold chain



### A smarter cold chain

The advantage of OnVu™ is that every operator involved in the cold chain can check the indicator at-a-glance and in real time: the shipping manager, the driver, the receiving manager, and even the store worker. This motivates everyone in the cold chain to treat products better.

In contrast to costly RFID and data loggers, OnVu™ does not require specialized equipment or data downloads to be analyzed. With OnVu™, anyone can instantly see the condition of food products based on their accumulated temperature history – *now that's a smarter cold chain!*

### Real time cold chain transparency

OnVu™ labels enable the manufacturer or distributor to prove to customers, in real time and at-a-glance, that product has been properly refrigerated.

### Case or item-level monitoring

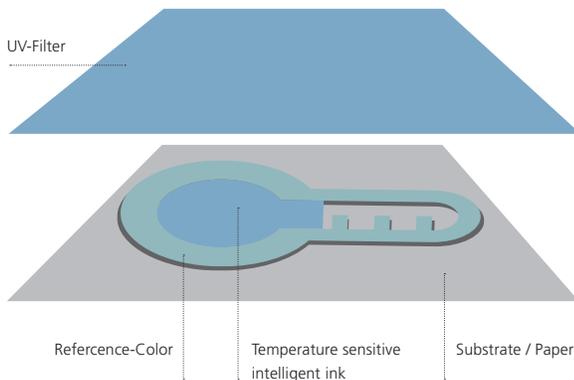
OnVu™ labels are attached directly to the case or retail packaging and don't get lost. This unprecedented, deeper level of monitoring bolsters the confidence in the safety of the foods you deliver to your customers. OnVu™ can even go beyond the truckload to help distributor or retail partners monitor the cases once in their custody and onwards into their refrigeration systems.

### Cost-effective monitoring

OnVu™ is based on a printable, intelligent, temperature-sensitive ink technology. This allows us to offer the indicators at a very low cost, at only a few cents per unit.

# How does OnVu™ work?

## A thermometer that thinks.



**“OnVu™ is a novel time-temperature indicator that constitutes a reliable tool to monitor the cold chain of a broad range of food products on their way from production to consumption.”**

**International Journal of Food Science and Technology,**  
2010, 45, 208-215

Inside the thermometer bulb lies the heart of OnVu™, an intelligent temperature-sensitive ink. At the point of packaging and upon activation by UV-light, the thermometer bulb will “wake-up” and turn its color to dark blue. From this point forward, the label begins sensing

the time and temperature of the product it is attached to. If the product is exposed to unsafe temperatures for too long, the color fades. Much like how food spoils faster if kept at higher temperatures, the indicator's rate of color change is also accelerated at higher

temperatures. As long as the thermometer bulb is darker than the thermometer outline, the cold chain has been kept intact. OnVu™ is that easy to read, *all at-a-glance*.

## FAQs

### **Which food products can I protect with OnVu™?**

OnVu™ can help protect all types of highly perishable foods with up to a 14 day shelf life. These include foods that are shipped fresh such as beef, poultry, seafood, pork, fresh produce, bagged salads, prepared and ready to eat meals, just to name a few. Sometimes customers prefer to ship items frozen – OnVu™ can help with this too. Since the indicator is irreversible, OnVu™ can detect if a product has thawed and or refrozen during the cold chain.

### **Can OnVu™ be integrated into a HACCP program?**

Yes, OnVu™ is a logical element in the HACCP process that ensures food quality and

safety. Recently, the FDA has recommended the use of Time-Temperature Indicators (TTIs) as part of the FDA Seafood HACCP. As a TTI, OnVu™, can be part of your HACCP program that bolsters the confidence in the foods you deliver to your customers.

### **Does it matter significantly where on the packaging the label containing OnVu™ is applied?**

Yes, it does, because the OnVu™ label measures the temperature exactly where it is applied. During the introduction phase, we help our customers, based on our experience, identify the most suitable position for the label. The OnVu™ label should be placed where the indicator will best reflect any interruption of the cold chain.

### **How should I inform my customers about OnVu™ and its benefits?**

Those receiving the product are informed in two ways:

- Right next to the indicator, the label includes an explanation of how OnVu™ works and how to use the label.
- OnVu™ is integrated in the shipping documents, which inform the recipient about the new label and how it supports cold chain monitoring.

#### **Bizerba North America**

Pedro Garza  
Product Manager Label Technologies  
M 512 914 7490  
pedro.garza@bizerba.com

[www.onvu.com](http://www.onvu.com)  
[www.bizerba.com](http://www.bizerba.com)

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