

# QUALITY PROTECTS.



**Velcorin® cold fill technology** – A perfect solution for the **microbiological protection of Hard Seltzer**

**X Velcorin®**

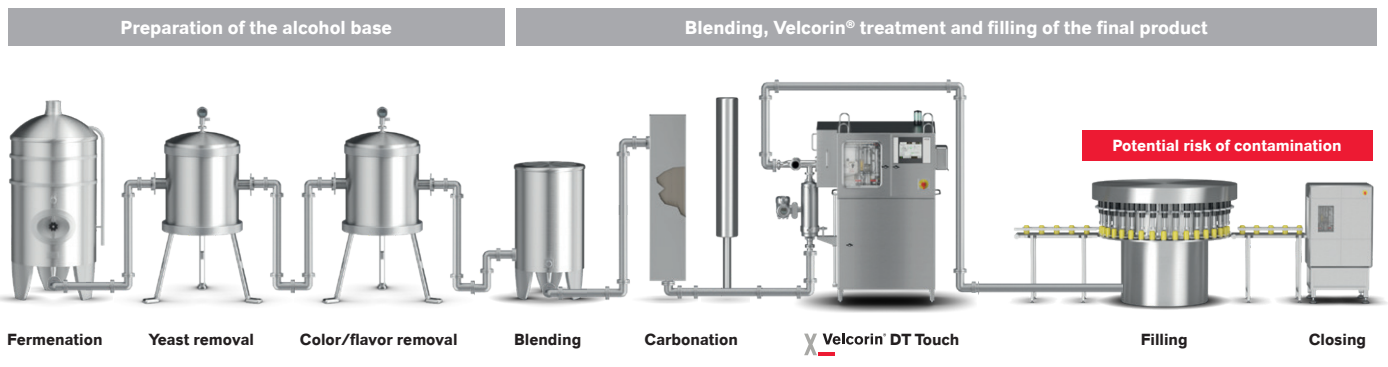
**QUALITY WORKS.**

**LANXESS**  
Energizing Chemistry

# HARD SELTZERS NEED PROTECTION

Hard Seltzers have become a global trend and driver for growth (+15% p.a.).<sup>1</sup> Typically, it consists of carbonated water, flavors and with an alcohol content of 3% to 6%. It comes with low or no sugar added and thus, stays in the 100-calorie range. Despite the lean recipe, the beverage with its fermentation-derived alcohol base needs microbiological stabilization to prevent spoilage.

**Figure 1: Schematic Hard Seltzer production process with integrated Velcorin® Dosing Technology.**



## YOUR CHALLENGES OUR SOLUTION

As a beverage manufacturer, you are and will be faced with increasingly tough challenges. For example, new types of drinks, like Hard Seltzers have to be developed and produced whilst maintaining high manufacturing standards to ensure that the drinks are protected from spoilage by micro-organisms.

Especially during bottling or canning process, microorganisms can contaminate the beverage – coming from the equipment, water aerosols in combination with the surrounding air or the packaging material. Here, the Velcorin® technology can resolve the risk of contamination and protect your beverage with its high efficacy against relevant Hard Seltzer spoiling microorganisms (Table 1). Furthermore, it allows more flexibility – especially in combination with can filling – more flexibility regarding the beverage formulation, i.e. higher carbonation level and no risk of interaction with inner coating of cans.

**Table 1: Yeast growths in different Hard Seltzer with and without Velcorin® protection**

Product		1		2		3	
		without Velcorin®	with 238 ppm Velcorin®	without Velcorin®	with 238 ppm Velcorin®	without Velcorin®	with 238 ppm Velcorin®
product spoiling microorganism	<i>Brettanomyces bruxellensis</i>	1,2 x 10 <sup>5</sup> cfu/ml	< 1 cfu/ml	1,4 x 10 <sup>3</sup> cfu/ml	< 1 cfu/ml	2,1 x 10 <sup>6</sup> cfu/ml	< 1 cfu/ml
	<i>Pichia sp.</i>	8,0 x 10 <sup>5</sup> cfu/ml	< 1 cfu/ml	2,5 x 10 <sup>9</sup> cfu/ml	< 1 cfu/ml	5,0 x 10 <sup>6</sup> cfu/ml	< 1 cfu/ml
	<i>Saccharomyces cerevisiae var. diastaticus</i>	11 cfu/ml	< 1 cfu/ml	25 cfu/ml	< 1 cfu/ml	6,0 x 10 <sup>4</sup> cfu/ml	< 1 cfu/ml
	<i>Saccharomyces pastorianus</i>	< 1 cfu/ml	< 1 cfu/ml	1,1 x 10 <sup>3</sup> cfu/ml	< 1 cfu/ml	< 1 cfu/ml	< 1 cfu/ml
	<i>Saccharomyces ludwigii</i>	< 1 cfu/ml	< 1 cfu/ml	< 1 cfu/ml	< 1 cfu/ml	4,3 x 10 <sup>4</sup> cfu/ml	< 1 cfu/ml

Inoculation level between 25 - 75 cfu/ml; readout after 21 day

<sup>1</sup>[www.grandviewresearch.com/industry-analysis/hard-seltzer-market](http://www.grandviewresearch.com/industry-analysis/hard-seltzer-market)

# TOUGH ON GERMS, GENTLE ON FLAVOR

Velcorin® is highly effective at a low dosage against typical microorganisms which can spoil drinks, and safeguards the quality and flavor of the beverages.

## Your benefits from Velcorin®:

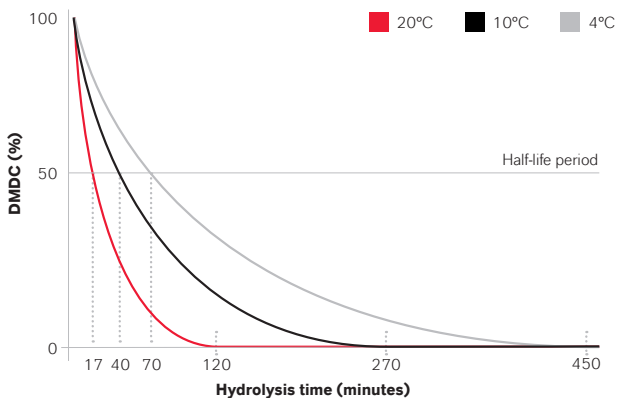
- Highly effective against Hard Seltzer spoiling microorganisms
- No sensorial impact on your beverage
- Compatible with all types of packaging
- Easy integration into new and existing filling lines
- Enabling fast portfolio extension into sensitive beverages

## How does Velcorin® work?

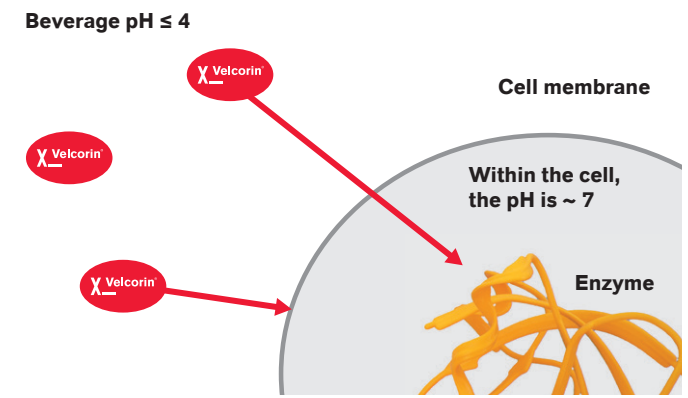
Velcorin® is dosed as a liquid just before filling of the beverage using our Velcorin® DT Touch dosing units. Velcorin® penetrates the cell and deactivates enzymes, leading to the destruction of microorganisms.

Once added to the beverage, Velcorin® rapidly breaks down into negligible amounts of methanol and carbon dioxide, naturally occurring compounds in many beverages. Consequently, it has no effect on the taste, smell or color of the beverages.

## Breakdown (hydrolysis) of Velcorin® in beverages



## A simplified illustration of how DMDC works



# ALWAYS ON HAND WITH SUPPORT AND EXPERTISE

We support your beverage projects from day one with extensive technical services for efficient implementation:

- Plant assessment and consulting
- Free dosing unit and full support for plant trials
- Chemical and microbiological analyses
- Training of product handling Velcorin®

To learn more about Velcorin® and our solution or Hard Seltzer please contact us

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